



52

ILLUSTRATED
GUIDE
TO
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AND
Neighboring
POINTS
OF
INTEREST.

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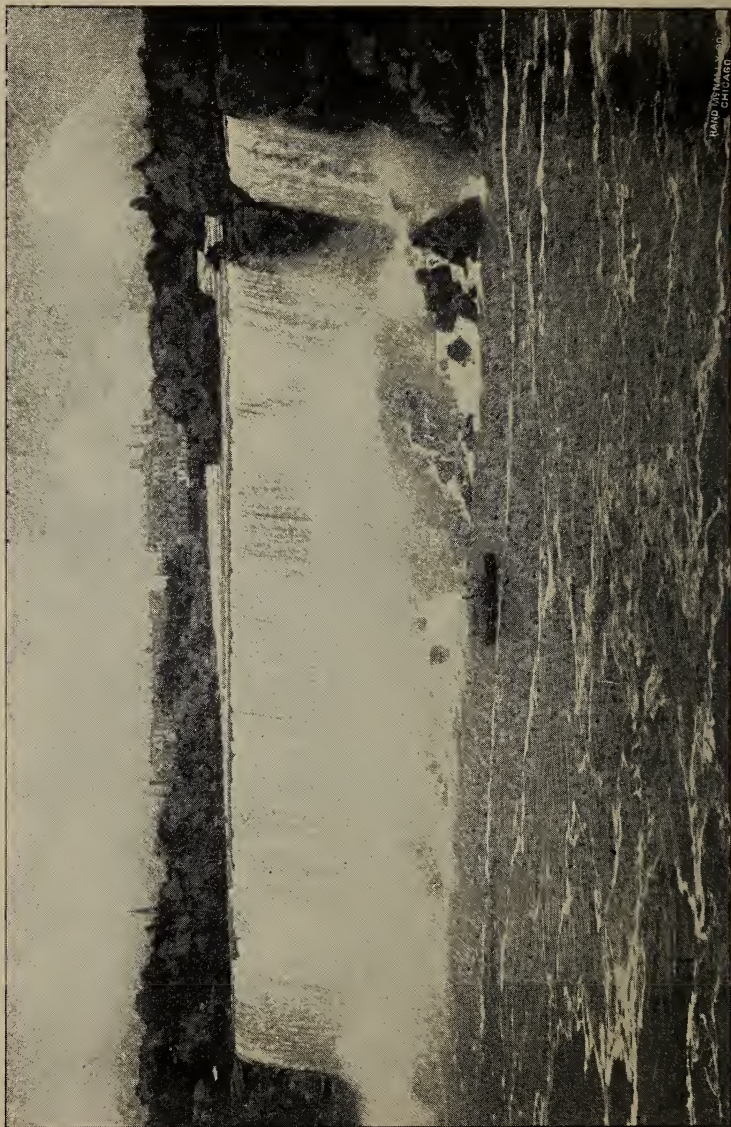
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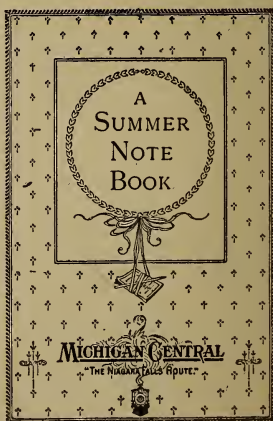
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A NEW

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In order to avail themselves of this privilege, passengers will deposit their railroad ticket (if limited), with the agent of the N. Y. C. & H. R. R. R. at Niagara Falls station immediately on their arrival at that point, being given in return a receipt for ticket. When ready to resume the journey, passenger will deliver receipt to the agent, and will then be furnished with a continuous passage ticket to destination.

Stop-over on tickets to points east of Boston and New York, or west of Chicago, Cincinnati, and St. Louis, will be allowed within their limit.

G. J. GRAMMER,
GENERAL TRAFFIC MANAGER,

A. J. SMITH,
GEN'L PASS'R AND TKT. AGT.,

CLEVELAND, O.

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Guide to Niagara Falls.

TO ALL WHO TRAVEL.

THE plan of this little work is somewhat different from that usually followed in the compilation of Niagara Falls guide books. No attempt has been made to pack all the history of the Niagara frontier into these pages; for, to the average sight-seeing tourist, historical facts are like an overloaded valise—hard to carry. The history has not been entirely left out, because a great deal of it is romantic and entertaining; but the effort has been to make the past less prominent than the present. As an historical hand-book, this work might easily have been doubled in size without exhausting the subject. The whole frontier of the Niagara, from Erie to Ontario, is a wonderfully rich field for the historian, as it is for the geologist. It is hoped that enough on both these lines of research is contained herein to add to the knowledge and enjoyment of the tourist thousands.

The especial feature of this Guide, which the publishers believe will commend it to all who travel, is its fullness and accuracy in treating of Niagara as it is now, and of the recent important changes in the vicinity. The past few years have been among the most eventful in the history of Niagara. Two governments have joined hands in rescuing the place from vandalism, and from private interests which long flourished to the detriment of the public enjoyment. The local sentiment, too, has undergone a marked conversion. There was a time when the visitor at Niagara ran great risk of falling among a brotherhood whom it were flattery to call thieves. But things are bettered now. The managers of local interests deserve great credit and the confidence

of the traveling public, for what has been done to establish the new order. The public is no longer regarded at Niagara as a goose, to be robbed of its golden eggs, and then discarded. Niagara's modern era of prosperity dates from the hour when, under the influence of State and Dominion precedent, the local entertainers of the tourist public undertook to guarantee strangers against imposition. That guarantee is made to-day. As a result, seeing Niagara Falls is cheaper and pleasanter than it ever was before.

Niagara Falls, in fact, belong to the public, as they should. They are the greatest natural sight on this continent, and are visited by more tourists every year than all the other resorts put together. It is the public's good fortune that they are easy of access from all parts of the United States and Canada. The railroad that doesn't run through coaches to Niagara Falls, or hasn't a Niagara Falls connection, has yet to be built.

Finally, as regards guide books. Seeing Niagara Falls is such a comprehensive work, that the stranger needs some assistance in order to see to the best advantage and to economize both his time and money. Then, too, there have been so many changes in the surroundings of the big cataract during recent years, that people who have often been there in earlier years have need of trustworthy information touching the present state of things. The chapters that follow have been written in the interest of the tourist public. They have been written by one who knows his field "by heart," and whose aim in this work has been to put himself in the place of the visitor, and make his directions and descriptions as plain, straightforward, and trustworthy as possible.

HOW TO GET THERE.

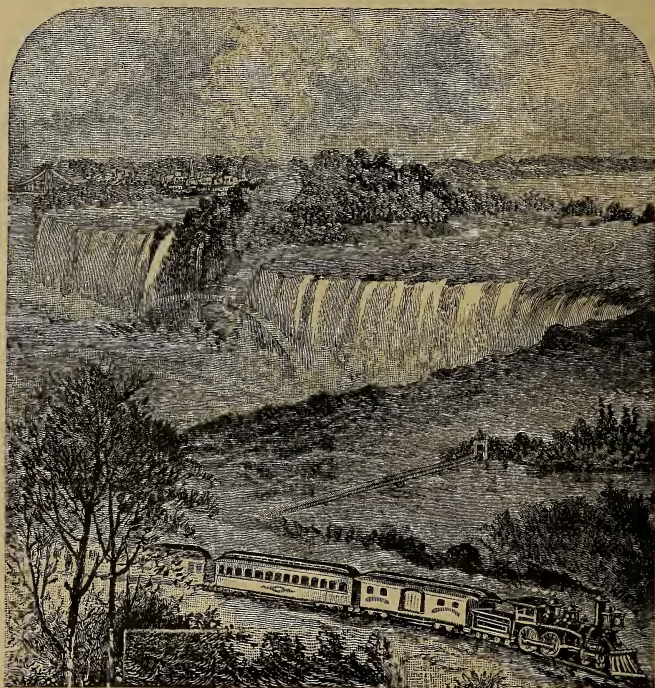
(If the Hibernian who thought it very lucky that great rivers often flow past great cities has visited Niagara Falls, he has probably remarked that it is also fortunate that many railroads run to a place which so many people wish to visit. Niagara Falls is one of the points of easiest access in the world. It is fifteen hours' ride from Boston, twelve from New York, fourteen from Chicago, and one hour from Buffalo. Travelers by the

Grand Trunk (Chicago & Grand Trunk from Chicago) cross the river on the Railway Suspension Bridge (opened 1855) and get a fine view of the Upper Whirlpool Rapids, and a distant view of the Falls, from the train. Travelers by the Michigan Central cross the river on the Cantilever Bridge, getting a distant view of the Falls; and also from Falls View Station, on the Canada side, a fine general view of the Horseshoe and American Falls. The New York Central reaches the Falls direct from Rochester, and also by a line from Buffalo, twenty-two miles, which skirts the east bank of the Niagara River for the greater part of the distance. The New York, Lake Erie & Western reaches the Falls by a branch from Buffalo. Over the tracks of the New York Central and the Erie run, besides trains of those roads, the through trains of the Michigan Central and Grand Trunk, and solid trains or through cars of the West Shore and Lehigh Valley roads. Niagara Falls, N. Y., is the present terminus of the Rome, Watertown & Ogdensburg Railroad, although its early extension to Buffalo has been announced as probable. The St. Catharines & Niagara Central reaches Clifton. The New York, Lackawanna & Western has taken steps for the construction of a line from its present Buffalo terminus to the Falls, incorporated as the Buffalo, Lackawanna & Pacific. (Yet another line likely to be built is the Buffalo, Thousand Islands & Portland, giving the R., W. & O. the Buffalo connection above mentioned.) The electric car line between Buffalo and Niagara Falls, equipped with elegant and commodious cars running every fifteen minutes, makes Niagara Falls more accessible than ever. It is a delightful ride, particularly during the summer season, and is patronized very extensively by the residents of Buffalo. In fact, this line has a tendency to make the Falls a suburb of Buffalo. More than one hundred trains daily arrive at, and depart daily from, Niagara Falls.

NAMES AT NIAGARA.

The traveler, especially if he has never visited the Falls, almost always approaches the place with some confusion of mind as to exact localities. If that is the reader's state of mind, let him read the following carefully and set himself right.

The principal village on the river opposite the Falls is Niagara Falls, N. Y. Years ago it was called Manchester, a name more appropriate now than ever before, for the town is a considerable manufacturing center, and bids fair to become much greater, as we shall see further on; but it is not likely that its name will ever



The Falls as seen from Falls View Station, Michigan Central R. R.

be anything but Niagara Falls. Two miles below, on the same side of the river, is the town of Suspension Bridge, N. Y. Midway is a residence section known as Clarksville. The consolidation of Niagara Falls and Suspension Bridge villages under the former name has long been discussed, and is likely to be accom-

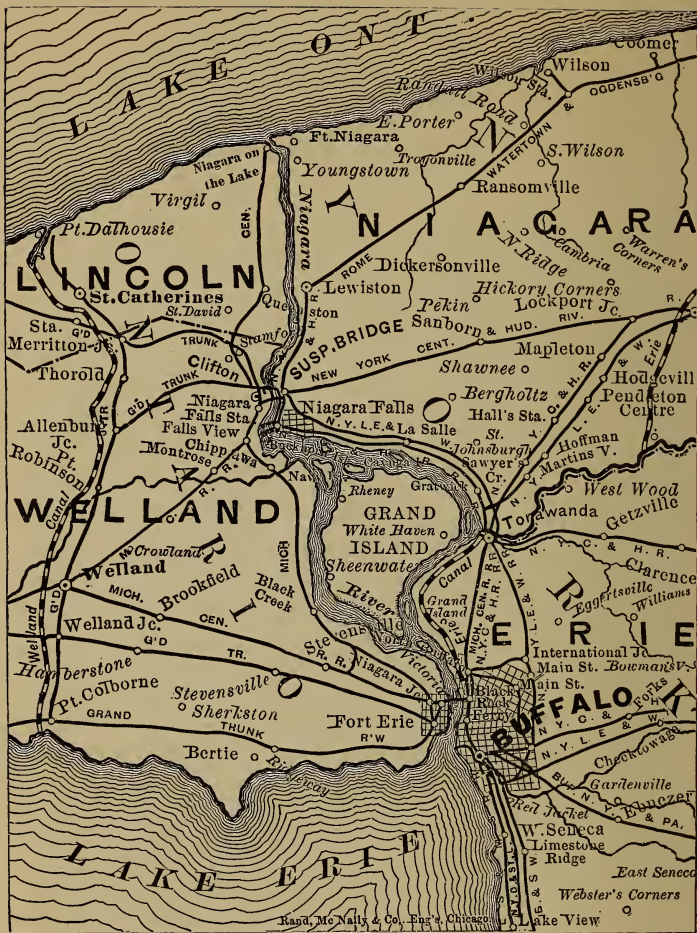
plished before many years. Opposite Suspension Bridge, on the Canada side, is Niagara Falls, Ont., formerly Clifton, which name is yet retained in the time-tables of the Michigan Central for that station, the name "Niagara Falls" being given to a station on the hill above the Clifton House. The town of Niagara, Ont., often called "Old Niagara," or "Niagara-on-the-Lake," is at the mouth of the river on Lake Ontario, fifteen miles to the north of the Falls.

The stranger will do well to remember that there are two vicinities of principal interest—the vicinity of the Falls, and the vicinity of the Whirlpool; they are three miles apart. A third region might be added from Queenston on the Canada side, and Lewiston on the American, to the mouth of the river—a lovely region, but of which the chief interest is historic; the hasty tourist too often neglects to see it.

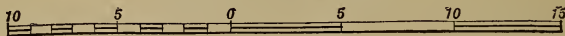
There are street-cars in the towns on both sides of the river, and one may ride from Niagara Falls, N. Y., to Suspension Bridge village for five cents. Cars run every eight minutes. The Suspension Bridge terminus is perhaps ten minutes' walk distant from points of interest on the river. Speaking of car-fares, let us have a few plain words

AS TO EXPENSE AT NIAGARA.

The Falls are practically free. Every part of the New York State Reservation, which includes the old Prospect Park and adjacent shores, Bath, Goat, Luna, the Three Sisters, and several other (inaccessible) islands, are absolutely free. There are no tolls, and no one has a right to demand or collect fees of any visitor, *except* for the use of the Inclined Railway, which is owned by the State. There is a charge of ten cents for riding down and up again. The stair at the side of the railway is free. On Goat Island, the descent to the Cave of the Winds, with guide and the use of oil-cloth suit, costs one dollar. Use of stair, without guide or suit, is free. It is a fine trip, but the visitor who is anxious to save his dollars may omit it and yet get a good idea of scenery at the Falls.



Scale of Statute Miles,



Map of Niagara River.

It costs something to cross the river; twenty-five or fifty cents by row-boat, ferry, or the *Maid of the Mist*; twenty-five cents upward (according as one walks or rides) to cross on either of the Suspension Bridges. Once on the Canada side, however, the whole bank of the river is free from Queenston to the Horseshoe. Above the Falls, in Victoria Park, there is a toll of ten cents, which goes toward Park maintenance, as the ten-cent charge at the Inclined Railway on the American side is used for the maintenance of that useful institution. The descent of the hydraulic lift at the Table Rock ledge is twenty-five cents, or fifty cents with oil-cloth suit. The Whirlpool Rapids elevators, on both sides of the river, are at present in private hands, and the regulation fee of fifty cents is charged at all of them. The Whirlpool elevator on the American side is in the DeVeaux College grounds, and here also fifty cents is charged.

This is all, except what the visitor voluntarily pays for hotel accommodation, carriage hire, photographs, and knickknacks.

FREE TOURS.

Suppose the visitor wants to see all he can without spending a cent.

He can walk from the Erie or New York Central stations, in Niagara Falls village, down Falls Street to the entrance of the Park in five minutes. In the Park he can go to Prospect Point and get a general view of the Falls, the upper Suspension Bridge, and the distant islands and Canada shore. He can go down the stairs at the Inclined Railway house, and view the American Fall from below. Returning, he can walk up the river bank to the bridge, cross to Bath and Goat islands, descend the stair to Luna Island, and visit every spot on Goat Island and the romantic Three Sisters, returning by the north end of the main island, if he is a good pedestrian, without the expenditure of anything but muscular energy and enthusiasm.

If on the Canada side, as we have shown, he can enjoy the finest of the general views, from the river bank between the Clifton House and the Horseshoe, without cost. He must forego the Canadian islands, unless willing to spend ten cents; but he



A Winter Scene at Niagara Falls.

can tramp to the Whirlpool, and even to Queenston, without being called upon to spend a cent.

Most visitors, of course, are prepared for reasonable expenditures. The following memoranda will show them, in convenient form, the ordinary fees to be paid for the use of bridges, elevators, etc., not included in the government tracts:

Goat Island—Including guide and suit to go through "Cave of the Winds".....	\$1.00
Prospect Park—Down and up Inclined Railway.10
Prospect Park—Round trip on <i>Maid of the Mist</i> , including rubber suit	.50
New Bridge—Niagara Falls to Canada and return, each person (carriage 25 cts.)25
Museum—At Niagara Falls, N. Y.50
Under Horseshoe Falls—Canada side—guide and suit (without suit 25 cts.)50
Old Suspension Bridge—Over and return.....	.25
Whirlpool Rapids and Park—Inclined Railway, Canada side.....	.50
Whirlpool Rapids and Park—Elevator, American side.....	.50
Whirlpool—Stairs, American side.....	.50
Niagara Falls to Suspension Bridge—Street-car over old bridge, Whirlpool Rapids Park (Canada side), return same way.....	.40
If each is paid separately.....	.85
Niagara Falls to Suspension Bridge—Street-car, walk to Buttery's Whirlpool Rapids elevator, return same way.....	.40
If each is paid separately.....	.60
Niagara Falls to Suspension Bridge—By street-car and return.....	.10

THE HACK SERVICE AND THE LAW.

The hackmen of Niagara Falls long ago gave the place a bad name. The village authorities, the proprietors of the leading hotels, and the local business men, gradually saw that the abuse and robbery of the public by the hackmen were killing the place. A local Business Men's Association was formed, which had for one object the enforcement of the ordinances. Many rival interests were involved, but out of the struggle has resulted a system of ordinances, and a disposition to enforce them, which well protects the visitor and makes Niagara Falls exceptionally pleasant and cheap to the tourist. The driver of any carriage has to subscribe in writing to the following rules and conditions before a carriage-license is granted him:

First. When seeking or awaiting a call, drivers must keep their carriages upon the stands and themselves within two feet of their carriages, and they are prohibited from soliciting passengers or persons within the corporate limits of this village, both by statute and the by-laws of this village.

Second. They will not be permitted to perambulate the streets, or, unnecessarily, to obstruct the same.

Third. Soliciting being a violation of the law, drivers will not be permitted to receive a passenger, or passengers, from those who do solicit.

Fourth. The practice of following persons with the evident purpose of soliciting, either from the sidewalks or streets, will be deemed to be and taken as soliciting, even when out of hearing of the complainant if distinctly seen by him, or upon evidence satisfactory to the Trustee.

Fifth. The practice known as "whirling," and inducing persons to enter carriages for five cents, or other nominal sum, are believed to have for their object an intention to deceive, and will not be tolerated.

Sixth. Tricks and devices of all kinds, misrepresentation and fraud, will not be tolerated.

Seventh. Interference by one driver with another when negotiating with a party is believed to be the cause of confusion and injustice, and therefore must not be practiced.

Eighth. Making insulting or rude remarks, to or in the hearing of persons visiting this village, will not be tolerated.

Ninth. Violation of any of the foregoing Rules and Regulations, or any improper conduct as driver, or otherwise, in the discretion of the Trustees, shall be deemed by them cause for the revocation of the license.

The following extracts from the Niagara Falls Village Ordinances, now in force, are of importance to the tourist. Some acquaintance with them will help him to protect himself from fraud:

All persons are prohibited within the corporate limits of this village from running for or soliciting any passenger or passengers, or person or persons, for any steamboat or other public or private conveyance, or for any tavern, boarding-house, store, or other place of resort, under a penalty of not less than ten dollars nor more than twenty-five dollars for each offense.

All persons are prohibited within the corporate limits of this village from driving any hack or other vehicle for the transportation of passengers for hire, drawn by a horse or horses, or from driving any car, truck, or other vehicle for the transportation of goods, wares, or merchandise, for hire, drawn by a horse or horses, without having a license therefor, from the Trustees of said village, under a penalty of not less than ten dollars nor more than twenty-five dollars for each offense.

All persons are prohibited within the corporate limits of this village from acting as "Guides" without first obtaining a yearly license therefor from

the Trustees of said village, under a penalty not to exceed the sum of twenty-five dollars for each offense.

Every person licensed under the provisions stated shall pay for such license such sum, not exceeding twenty-five dollars, as the Trustees may by resolution designate.

Every person having license, who shall willfully misrepresent any public house, steamboat or railroad, or shall willfully make any false representation to any person with regard to any solicitor, runner, or guide, or shall use boisterous or obscene language in the prosecution of his business, shall be liable to the penalty of the revocation of his license.

Every person licensed to drive a hack or other vehicle, who shall by false representation, trick, artifice, plan, scheme, or device, induce other persons to enter his carriage, or who shall willfully deceive, or attempt to deceive, and thereby commit any fraud upon any person, shall be liable to a penalty of twenty-five dollars, and his license shall be revoked.

All licenses granted under the provisions of this Chapter shall expire on the first Tuesday in April in each year, unless sooner revoked.

The following parts of streets are hereby designated as carriage stands, with the consent of the owners of adjacent property:

Stand No. 1.—In front of N. Y. C. & H. R. R. depot, on the north side of Falls Street, from the telegraph pole at the end of main building to Third Street, a distance of two hundred and eight feet, and at a width of thirty feet from the curb. *Stand No. 2.*—West side of Canal Street, beginning at northern entrance to Reservation, and running southerly one hundred feet, at a width of fifteen feet. *Stand No. 3.*—West side of Canal Street, beginning at entrance to Reservation, corner of Canal and Falls streets, and running northerly one hundred feet, at a width of fifteen feet. *Stand No. 4.*—West side of Canal Street, beginning at the corner of Canal and Bridge streets, running northerly one hundred feet, at a width of fifteen feet. *Stand No. 5.*—Cascade Street, east side, beginning at the corner of Cascade and Bridge streets, running westerly two hundred feet, at a width of ten feet. *Stand No. 6.*—Rapids Street, west side, beginning at the corner of Rapids and Cascade streets, and running northerly one hundred feet, at a width of ten feet. *Stand No. 7.*—Canal Street, east side, beginning at the corner of Canal and Mill streets, running westerly one hundred and fifty feet, width fifteen feet. *Stand No. 8.*—Mill Street, west side, beginning at corner of Mill and Canal streets, running northerly one hundred feet, at a width of ten feet.

No hackman or driver of any carriage, licensed by the Trustees of said village, shall demand or receive of any person, unless there be an express contract between the parties, any more fare than is established by the following rates: For carrying one passenger and ordinary baggage from one place to another within this village, fifty cents; and for each additional passenger and ordinary baggage, twenty-five cents. For carrying one passenger and ordinary baggage from any point within this village to any point within the Village of Suspension Bridge, one dollar; and for each additional passenger and ordinary baggage, fifty cents; each additional piece of bag-

gage other than ordinary baggage, twelve cents. Children under three years of age, free; over three years of age and under fourteen years of age, half price. For carrying one or more passengers in the same carriage, from any point in this village to any point within five miles of the limits of the village, are at the rate of one dollar and fifty cents for each hour occupied, except that in every instance where such carriage shall be drawn by a single horse, the fare therefor shall be at the rate of one dollar for each hour occupied.

Ordinary baggage is defined to be one trunk and one bag, hat or hand-box, or other small parcel.

Each hackman or driver shall have a number assigned him by the Board of Trustees corresponding with the number of his license; he shall, upon application of any person who employs him, mention his number correctly.

It is further required that every licensed vehicle shall have a number plainly marked on the outside, so as to be easily read, to correspond with the number of the driver's license; in the carriage, in plain sight, there must be a card bearing the driver's number and the rates of fare as established by the Trustees. Failure to comply with these rules, if detected by the traveler, should be reported to the authorities, whose duty it then is to arrest and examine the driver, fine him if guilty, or even take away his license. This has been repeatedly done in the past year, and the public has benefited thereby.

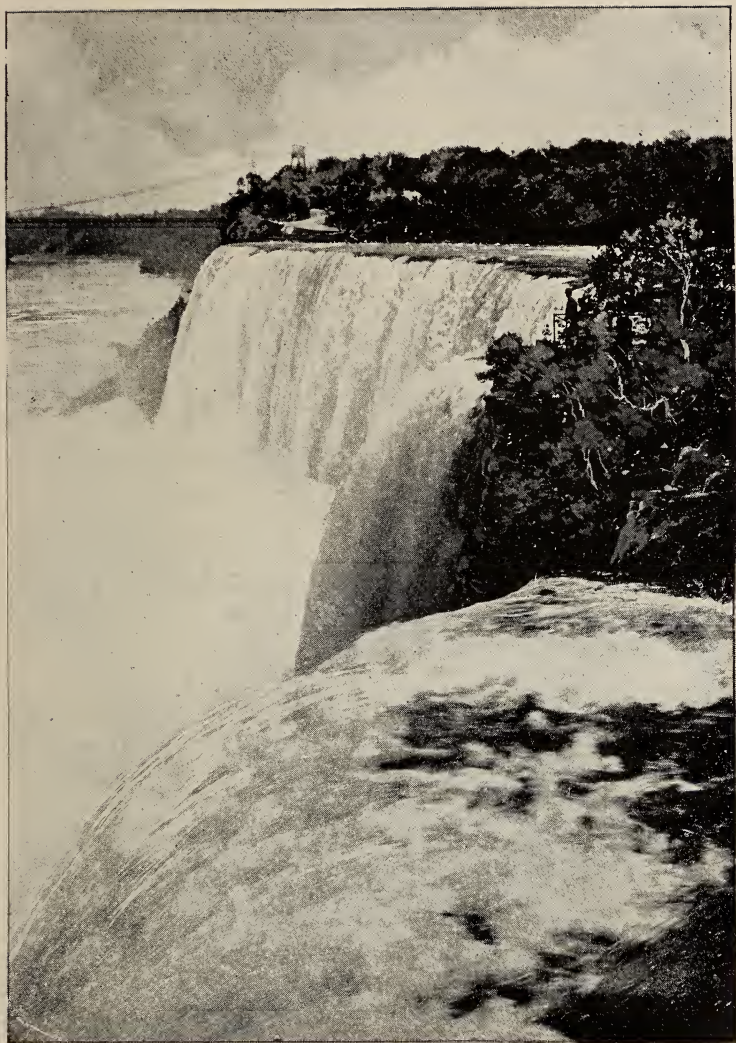
FOR THE EDIFICATION OF ALL.

We have spoken elsewhere of the practice of soliciting passengers for the "Burning Spring," despite the fact that that natural phenomenon played out years ago. One or two other little impositions may also be encountered.

One of these is practiced by some of the "independent" hackmen. The stranger is hailed as he emerges from the depot or hotel.

"Carriage, mister? I'll take you down and show you the Falls for a quarter."

The offer is, of course, a ruse to get the customer into the carriage, and away from rival drivers, whereupon a drive of several miles, to cost three to five dollars, is proposed. This is tricky, but it is not a swindle. The swindle comes in when the visitor says, "No, I'm only taking the twenty-five-cent ride you proposed. If this is all you give for a quarter, take me back."



The American Fall from Goat Island.

"Oh, no," retorts the driver; "I agreed to show you the Falls for a quarter; I didn't agree to take you back for that price;" and the victim has his choice of paying the return fare demanded, or of getting out then and there.

On one occasion, the writer was in the bazaar which forms the entrance to one of the elevators on Niagara's bank. An unsophisticated youth came in, looked about, and presently asked if he could ride down in the elevator for nothing. He was smilingly told that he could. He went down, but on his return was stopped, and fifty cents demanded, the explanation being, that anyone could go down for nothing, but that all must pay on coming up. Perfectly true, yet what an imposition on an untraveled countryman, who had yet to learn the general rule of the world: "Everything worth having has to be paid for."

It is such miserable tricks as these that disgust visitors at the Falls. The general policy on both sides of the river is now so honorable and protective, that neither the Commissioners of the Reservations, the village authorities, nor the Business Men's Association can afford to ignore these swindles. Their eradication will be in line with all the recent good work which is hastening the day when Niagara Falls will be once more, not merely a point for breathless excursionists to spend their money, but a place of pleasant sojourn and summer rest.

TOUR OF THE STATE PARK.

A good place to begin to see Niagara is at the parapet in Prospect Park—which was the former name of this part of the State Reservation, and by which it continues to be known. If the object be to obtain a first general view of the great amphitheatre below the Falls, an ideal place of outlook is the middle of the upper Suspension Bridge; but as visitors will usually prefer not to pay bridge-tolls until ready to cross to the other side, this view may very well be deferred.

Many people say they are "disappointed" in their first view of the Falls. This is partly because they look at the Falls from above, instead of from below, where the prospect is much more impressive; partly because the distances and wide prospect dwarf

the height; and partly because many people think it the correct thing to refuse to recognize the beautiful and sublime when it is before them.

After taking a good general view from Prospect Point, we recommend that the visitor go to the foot of the American Fall by the Inclined Railway, the entrance to which is but a few steps from Prospect Point.

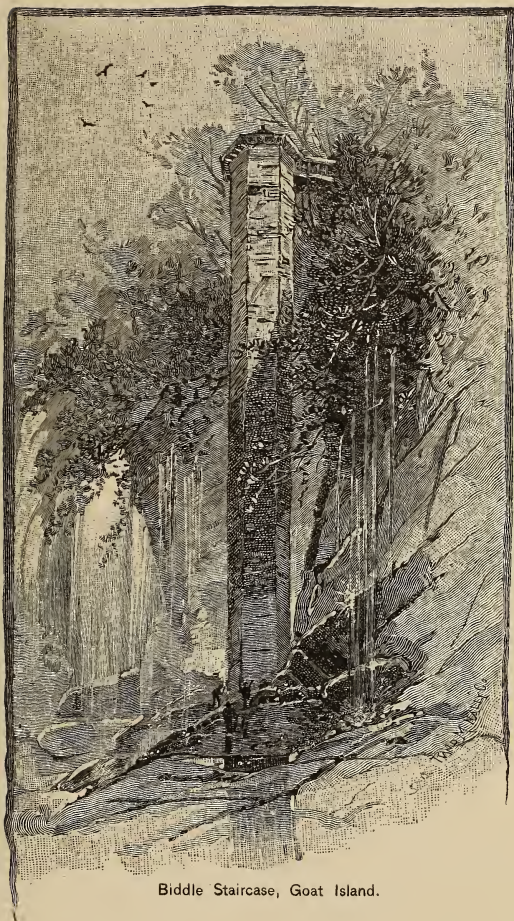
By some three hundred stairs, or, better still, in a car running on an inclined railway, we descend to the water's edge. These cars are raised and lowered by water-power by means of a three-inch cable three hundred feet long, running around and over steel wheels. This cable-car has been running many years, but there has never been an accident. At the foot of the stairway tickets may be obtained for the trip on the *Maid of the Mist*. The Shadow of the Rock, as the space between the sheet of water at the end of the American Fall is called, is no longer accessible, the authorities considering the spot dangerous.

Here were formerly a stone observatory and dressing-rooms, where visitors put on oil-cloth or rubber suits preparatory to the trip under the American Fall; but when the State took possession, the trip was discontinued, and the buildings torn down.

Over the rocks, near by, is formed, every severe winter, a huge mountain of solid ice, which does not entirely disappear till the end of May. This ice mountain has been one hundred feet high. On the top of the observatory and dressing-room, too, the ice often forms four feet thick.

From this point, during seventy-five years, ran the old Bateau Ferry. It has been replaced by the *Maid of the Mist*, which runs up to the Horseshoe Fall, then back to the Canadian side, and finally returns to its starting point. The fare is fifty cents.

Prospect Park was formerly owned by a private company, which introduced electric lights with colored shades, an art gallery, etc.; but in 1885 the State of New York secured the property and discontinued these features. The State has done much to beautify the Park, but the general policy is to restore things as nearly as possible to a state of nature, without the aid of artificial attractions. There are fine old trees in Prospect Park, and



Biddle Staircase, Goat Island.

numerous structures for the comfort of the public. It is a favorite place for picnics, and there are no signs to "keep off the grass."

TO THE ISLANDS.

Returning from the foot of the Fall, walk or ride up the American shore, past the rushing rapids, to Bath Island Bridge. This is the only approach to one of the pleasantest spots in the world. Bath Island lies midway in the river. It was formerly covered with mills, which were removed when the State took possession. The brick office of a vanished paper-mill has been retained as a convenient meeting-place for the Reservation Commission. On the left, up-stream, are Ship and Brig islands, so called from their slight resemblance, in winter, to stranded craft with bare masts. These islands should be bridged, as should the small islands on the right. A second bridge conducts from Bath to Goat Island. There are direct roads through the woods to the west side of Goat Island, but the usual route is to turn to the right. The path winds through a grove of beeches and elms, and presently brings the visitor to a point of view whence he looks back across the American Fall to Prospect Point, where he lately stood. The view here is one of the loveliest at Niagara. Stairs and a short bridge conduct down to Luna Island, so called because the lunar bow is seen here under favorable circumstances. The small portion of the Fall separated from the main cataract by Luna Island is named Luna Fall. Under it, in the cavern formed by the recessed cliff, is the Cave of the Winds.

From the further side of Luna Island, protected by an iron railing, a most intimate view of the American Fall is had. It will be observed that the line of the Fall is far more irregular than it appears to be when seen from any other points.

The guide books have usually called upon visitors to stop at the top of the Luna Island stairs and "see the so-called profiles, formed by the inequality of projection in that portion of the precipice which is formed by the western side of Luna Island. The rock is close to and almost under the American Fall. They obtain their name from their remarkable likeness to three human

faces." Most people fail to see anything very "human" in these rocks; but the distant outlook is so lovely that it doesn't need any fancied accessories.

Once more resuming the path that circles Goat Island, glimpses of the distant Horseshoe are soon obtained. A short walk brings one to the Biddle Stair, by which approach is had to the Cave of the Winds. This famous stair is named after Nicholas Biddle, one time president of the United States Bank at Philadelphia, who, in 1829, contributed the funds for its erection. The Park Commissioners have repeatedly asked the Legislature to appropriate funds for the construction of an elevator at this point, but the much-needed grant has not yet been made.



American Fall, Prospect Park.

The perpendicular height of the bank at this place is one hundred and eighty-five feet, the staircase being eighty feet high and consisting of ninety steps. From the foot of the stair a rude path leads toward the foot of the Horseshoe Fall. It is one of the points where there is yet room for improvement. A little outlay would convert this rough and neglected spot into a popular point of resort.

To the right from the Biddle Stair runs the path to the Cave of the Winds, or, as it is sometimes called (in the guide books only), *Æolus Cavern*, by all means the best place to go behind the sheet of water. It was first entered in 1834, and during the past fifty-six years this curious but splendid cave has been the chief charm of the locality, and has been visited annually by hundreds. It is one hundred by one hundred and sixty feet in dimensions, and one hundred feet in height. Having been excavated by the action of the falling water, it forms a natural chamber through which, with suitable dresses and guides, which can be secured for a dollar, we can pass between the cataract and the rock, and see the everchanging effect of the light passing through the descending mass of water; take a bath in the mist and spray of old Niagara; pass through the rainbows, and secure a novel sensation of commingled terror and safety, from which we can emerge after a few minutes as free from any other effect of the water as when we entered.

The formation of this cave was easy. The gradual wearing away by the water of the shaly substratum of the precipice, left the limestone rock above projecting about thirty feet beyond the base, thus forming an open cave, over which descends the *Luna Fall*. The compression of the atmosphere by the falling water is here so great that the cave is rendered as stormy and turbulent as that of old *Æolus* himself, from whose classical majesty, indeed, it derived its first name.

If the wind is blowing down the river, or from the American shore, you can stand with perfect safety upon a large rock, within a few feet of the falling sheet, without inconvenience from the spray. In the afternoon, when the sun shines, there is always a splendid rainbow between the sheet of water and the rock, within a few feet of you; and this is the only place on the globe where a rainbow forming an entire circle can be seen. Two, and sometimes three, have been seen at once.

Over and among the rocks at the foot of *Luna Island* formerly ran paths with numerous bridges. It was the usual tour, except by the timid, to pass through the Cave of the Winds, behind *Luna Island*, and over these bridges, which were always green and slippery with algæ and the perpetual spray. The State has discontinued this risky and enjoyable feature.



Entrance to the Cave of the Winds.

After remounting the Biddle Stair, follow the path along the bank to the left, and you will reach the spot where a huge slice of the land has fallen. One slide occurred in 1843, and another in 1847. Within twenty years, more than twenty feet in width and four hundred feet in length have gone down. Proceed a little farther, and you stand above and in full view of the Canadian Fall. Go down the hill and out to the Terrapin Rocks; it may be tiresome, but it will repay you.

This bridge is subject to the action of the spray; care should be taken in crossing it. In the winter of 1852, a gentleman from West Troy, N. Y., while crossing to the tower, fell into the current, and was carried to the verge of the Fall, where he lodged between two rocks. Mr. Isaac Davy, assisted by a visitor, rescued him, by throwing lines to him; he had just sufficient strength left to fasten them around his body; then they drew him to the bridge in an exhausted condition. He remained speechless for several hours after being taken to his hotel.

As you stand inside the iron rail and overlook the vast gulf below, you are in the very center of Niagara.

The old Terrapin Tower, also called Horseshoe or Prospect Tower, which stood on these rocks, was built, in 1833, of stones gathered in the vicinity. It was a round tower forty-three feet high, twelve feet in diameter at the base, and eight feet at the top, with a gallery near the upper end—a rugged structure, in perfect harmony with its surroundings. It was blown up by the wish of a majority of the owners of the Goat Island Group, in 1873, on the ground that it was unsafe. Table Rock, which fell in 1850, was directly opposite, on the Canadian shore.

From this point one gets the best view of the shape of the Fall, and the clearest idea of how it has been modified by the action of the water. This action has been especially violent of late years. On Sunday, February 1, 1852, a portion of the precipice, stretching from the edge of the island to the tower, about one hundred and twenty-five feet long and sixty feet wide, and reaching from near the top to the bottom of the Fall, fell with a crash of thunder. The next day another, a triangular piece, with a base of about forty feet, broke off just below the tower. Between the two portions that had thus fallen, stood a rectangular projection,

about thirty feet long and fifteen feet wide, extending from the top to the bottom of the precipice. This mass loosened from the main body of the rock and settled down perpendicularly about nine feet, where it stood for years, an enormous column, one hundred and fifty feet high by the dimensions given.



The Falls from Below, American Side.

This Fall is often called the Canadian Fall. The boundary-line between the United States and Canada was fixed by a commission created by the Treaty of Ghent. It met at Utica, N. Y., in 1822, and designated the following boundary-line, which is still in force: The line runs "from the mouth of the Niagara

River up the middle of said river to the great falls, thence up the Falls *through the point of the Horseshoe*, keeping to the west of Iris or Goat Island."

Human law has not changed the boundary, but natural law has. The point of the Horseshoe is not fixed; in the last seventy years it has shifted very considerably; so that we have here a unique example of a fluctuating boundary-line between two nations.

The width of the Horseshoe is about two thousand three hundred and fifty feet. The deep green color of the water, especially in the angle, is due to the depth. In 1827, the *Michigan*, a vessel condemned as unseaworthy, was purchased and sent over the Fall. She drew eighteen feet, and filled with water as she went through the Rapids. As she went over the brink without touching, the depth of the water was proved to be twenty feet.

As you reach the top of the bank, the path directly in front will lead you through the wood back to the bridge, but you will miss much if you take it. Turning to the right, you follow the edge of the bank for about forty rods and reach a small stone monument directly in your path, marked with a cross on the top, the arms indicating the cardinal points of the compass. It was set by the New York State Survey in 1842 to mark the recession of the Falls.

A fine view is here had of the Canadian Rapids, which run at the rate of twenty-eight miles an hour.

The cedar-lined way leads along the west side of the island, to the Three Sister Islands, connected with Goat Island by substantial suspension bridges in 1868. The first, second, and third Sister lie one beyond another, the third being the farthest out in the Canadian Rapids. From the rocks at the head of this little islet it seems as if the terrible torrent which comes pouring down from the south would sweep it away. Little Brother Island, just north of the Sisters, is detached. Adventurous people have reached it and returned in safety, but the experiment is not recommended. A light bridge thrown across to it would pleasantly extend the tourist's ramble.

From the head of the third Sister may be seen one continuous cascade, extending as far as the eye can reach, from Goat Island across to the Canada shore, varying from ten to twenty feet in

height From this miniature Niagara rises a spray similar to that of the great Falls.

The "Hermit's Cascade" is best seen from the first Sister Island Bridge, by which it is spanned, and is a beautiful sight. It is so called because Francis Abbott, the Hermit of the Falls, used to bathe here in 1829. He was a young man, gentlemanly and accomplished, who for two years lived a solitary life at Niagara. He had a hut near this spot on the island, and later on he built one in what is now Prospect Park. He had but little intercourse with



The Bridge, Sister Islands.

anyone, wrote a great deal, and always in Latin, but destroyed all manuscripts almost as soon as written. On Goat Island, at hours when it was unfrequented, he delighted to roam, heedless, if not oblivious, of danger. At that time a stick of timber eight inches square extended from Terrapin Bridge eight feet beyond the precipice. On this he has been seen at all hours of the night, pacing to and fro, without the slightest tremor of nerve or hesi-

tancy of step. Sometimes he was seen sitting carelessly on the extreme end of the timber—sometimes hanging from it by his hands and feet. He belonged to a respectable English family, and his reasons for leading this life were never known. He was drowned while bathing near the foot of the Park Railway, in 1831. His body was recovered, and is buried in Oakwood Cemetery, Niagara Falls, near that of Captain Webb, and many another victim of Niagara.

When you get back to Goat Island, you can return to the bridge by a short way by taking the road straight ahead through the woods. It is best, however, to see the other views, and to do this you turn to your right, and follow the road directly east. Here one sees how it was possible for the island to have reached a long way up-stream, for a bar extends up between the currents for nearly half a mile, with a depth of water not over four feet. This also shows how it was possible for people to visit the island before the bridge was built. The upper (south) end of Goat Island is tame but pleasant. Opposite it, on the American bank, was, years ago, a favorite landing-place for smugglers bringing whisky into the States from Canada. Many a boat has run across from Chippewa in dark nights, and ventured thus near to the American Rapid and Fall, that the owner of its contraband cargo might enjoy the unlawful but handsome profit on his goods which the American market afforded. There is always more or less smuggling across the Niagara, but the modern smugglers take safer routes than this.

Still following the circuit of the island we reach, not far from the bridge which leads back to the mainland, a spring of excellent water, called Rebekah's Well. Whoever drinks here will carry pleasant recollections of Goat Island away with him.

Had the tourist taken any of the roads which run through the middle of the island, he would have had a short but delightful passage through a fine bit of woods. Many of the trees on Goat Island are among the oldest and largest to be found anywhere in Western New York.

Once more on the mainland, the rest of the Reservation should not be neglected. The State's free domain extends along the bank up to Port Day, a point on the shore about a mile above

the Falls, where a hydraulic canal opens from the river. This is the lowest point of safe navigation on the Niagara. Nowhere else is the good work of the State more apparent than along here. The bank was formerly covered with mills and unsightly structures. All are now cleared away, and every year some progress is being made toward restoring the region to a state of nature.

HOW NIAGARA WAS MADE FREE.

Everyone who enjoys the present freedom of Niagara should have some knowledge of the way in which it was made free.

The idea was first publicly spoken of by Lord Dufferin, then Governor-General of Canada, in a speech delivered in Toronto, before the Ontario Society of Artists, September 26, 1878. Shortly after, Lord Dufferin had a conversation with Governor Lucius Robinson of New York State, concerning Niagara's debased condition. From this conversation is reckoned the beginning of official action toward bringing about a better state of things. In the following October, Lord Dufferin formally brought the matter to the attention of the New York State authorities in a letter to Governor Robinson, who laid the project before the Legislature in the following January, and recommended the appointment of a commission to consider the subject. This commission in due time recommended the acquisition of the lands adjoining the Falls, and the appointment of a commission to take the necessary legal measures.

Canadians are justified in claiming for Lord Dufferin the credit of being the originator of the free park idea.

Americans may continue to maintain that Governor Robinson deserves the honor of taking the first step to make the Falls free.

As a matter of fact, all that either of them did was to become impressed, rather tardily than otherwise, with the public sentiment in the matter, and to recommend legislative action. Lord Dufferin urged the matter upon the Provincial Government of Ontario; Governor Robinson brought it before the New York Legislature; and the slow machinery of legislation and law did the rest. There was much opposition, both in the form of private interests

and legislative indifference. A feature of the battle which was waged against official hesitancy and stolidity was the sending to the Legislature of 1880 "a remarkable memorial asking for the enfranchisement of Niagara," which had been addressed in duplicate to the Governor-General of



Horseshoe Falls, from Goat Island.

Canada and the Governor of New York, by about six hundred of the most eminent men of the United States, Canada, and Great Britain, among them Professor Max Müller, Sir John Lubbock, Thomas Carlyle, and John Ruskin. And the feature was the formation of the Niagara Falls Association, composed of representative citizens of New York City, Boston, Brooklyn, Buffalo, Philadelphia, and other cities. Howard Potter was its president, and Daniel Hunt-

ington, George William Curtis, and Cornelius Vanderbilt were its vice-presidents. Its object was "to promote legislative and other measures for the restoration and improvement of the natural scenery of Niagara Falls, in accordance with the proposed plan of the Commissioners of the State Survey, as presented in their special report on the subject, under a concurrent resolution of the Legislature of the State of New York, May 19, 1879."

Bills to carry out this plan were introduced in 1880 and 1881, but failed to pass. No action was taken in 1882. In 1883, "an Act to authorize the selection, location, and appropriation of certain lands in the village of Niagara Falls for a State Reservation, and to preserve the scenery of the Falls of Niagara," was passed, and on April 30, 1883, was signed by Governor (now ex-President) Cleveland, and became a law. William Dorsheimer, Andrew H. Green, J. Hampden Robb, Sherman S. Rogers, and Martin B. Anderson were appointed commissioners to select the necessary lands; one hundred and seven acres, embracing Goat Island and adjacent islands, Prospect Park, from the brink of the cataract to the new Suspension Bridge, also a strip of land running from Prospect Park to Port Day, bordering the river and containing the buildings which marred the beauty of the natural scenery, were bought from private owners for one million four hundred and thirty-three thousand four hundred and twenty-nine dollars and fifty cents. On a memorable 15th of July, 1885, the New York State Park at Niagara Falls was opened with ceremony, attended by sixty thousand people, and declared free to all the world.

The improvements which have been made consist chiefly of the removal of mills and other unsightly buildings, the planting of trees, etc., and a general effort to restore the river banks and islands to a state of nature. The landscape gardening has been carried on in accordance with plans perfected by Mr. Frederick Law Olmsted, and Mr. James T. Gardner, director of the State Survey in 1879. The work of improvement would go on faster if the State were more liberal in appropriations.

EFFECTS OF FREEDOM.

During the season (about half the year) of 1885, the year the State Park was established, the number of visitors, as reported by the efficient superintendent, the Hon. Thomas V. Welch, ranged from one thousand to six thousand daily, at least four times as many as before the establishment of the Reservation. During the excursion season of 1886, two thousand seven hundred and forty-one cars arrived, bringing one hundred and sixty-six thousand two hundred and eighty excursionists; the proportion of well-be-

haved people may be inferred from the fact that only five arrests for any cause whatever were made on the Reservation during the entire year. In 1887, from June 1st to October 24th, three thousand one hundred and sixty-nine cars brought one hundred and eighty-seven thousand seven hundred and eighty-one excursionists. On August 19th of that year fourteen special trains arrived, aggregating one hundred and sixty-seven cars, with over ten thousand people. No accident occurred on the Reservation during the season, and but three arrests for violation of ordinances were made. In 1888 the visitors, as estimated by the Park Superintendent, was about three hundred thousand, of which one hundred and seventy-one thousand and six hundred were "excursionists." In 1889 the same authority put the number of visitors at five hundred thousand, with a fallir^g-off of excursionists to one hundred and forty-two thousand eight hundred and sixty.

These figures show how popular Niagara has again become, and how admirably the free system works, so far as a rational use and enjoyment of privileges is concerned.

ON THE CANADA SIDE OF NIAGARA.

It is a little hard for an American—i. e., a *United States man*—to acknowledge that Niagara Falls is seen to better advantage from the Canadian side than from under the Stars and Stripes. Such is the fact, however. The best general view is had from the Canada side. The most effective view of the Horseshoe is from the path that approaches the tunnel under the Canadian edge of the Fall—the most effective, that is, for sublimity and grandeur. For mere beauty, we think Luna Island Fall takes precedence.

THE QUEEN VICTORIA NIAGARA FALLS PARK.

This is the long but loyal name under which the lands bordering the river on the Canadian side, in the vicinity of the Falls, have been known since the spring of 1887. We have already referred, in



The Horseshoe Fall from Goat Island.

sketching the history of the Reservation on the American side, to the honorable part borne by Lord Dufferin in making Niagara free. The Canadian Government moves slowly, but once under way, it does its work well. The New York State Reservation was opened July 15, 1885. At a meeting of the Ontario Provincial Parliament, in that year, preliminary steps were taken. By the spring of 1887 the title in all the lands embraced by the Park (as first established) had passed to the Government, in the name of Queen Victoria, and the Commissioners began the work of clearing and improving the grounds. The Commissioners were Col. (now Sir) Casimir S. Gzowski, K. C., M. G., chairman; John Woodburn Langmuir, John A. Orchard, and John Grant Macdonald. The last-named gentleman has since died, and no successor has been named at the time this Guide is compiled; otherwise the Commission remains as first organized. Mr. James Wilson has been the very efficient superintendent of the Park from its establishment.

The lands first named, the Queen Victoria Niagara Falls Park, cover an area of one hundred and fifty-four acres. They extend along the western bank of the Niagara from the Clifton House on the north (near Canadian end of upper Suspension Bridge) to smooth water above the head of the Rapids, a distance of two and one half miles; the width embraces all the land lying between the water's edge and the steep wooded bluffs, which forms a magnificent natural boundary on the west. This area includes, besides the strip of main land, Cedar Island, about one thousand two hundred feet long, and the group opposite the head of the Rapids, formerly called Clark Hill Islands, now better named Dufferin Islands.

In 1890, the Victoria Park—as it is called for short—was extended by the acquisition, on the part of the Government, of a strip of land fifty feet wide from the top of the bank, extending from the north limit of the Park as first established, to Queenston; thus including the wild pocket in the hill which holds the Whirlpool; the wooded *demesne* known as Foster's Flats, skirting one of the wildest rapids in the river; and seven miles of the most picturesque but least known parts of the Niagara gorge.



Ferry Landing, Canadian Side.

An electric railroad runs along the bank via the upper part of the Victoria Park, from Chippewa to Queenston, stopping at all points of interest.

A TOUR IN VICTORIA PARK.

In a general sense, everything is free on the Canadian side. The few charges that are made are just and reasonable. No one who remembers the reign of extortion, now happily past, can possibly grumble at the cost of seeing Niagara to-day.

The tourist who comes by rail on the Canadian side, may leave the train at the Grand Trunk station at Niagara Falls (Ont.) station; from which, unless he is a vigorous pedestrian, he will take tram-car to a point near the Park entrance, or a carriage to and through the Park. If he arrives by Michigan Central, he can be set down at the "Niagara Falls" station, near the Clifton House. A few minutes walk will bring him to the Park entrance. If he cross from the American side by the upper Suspension Bridge (toll), he turns to the left, past a licensed photographer's, and soon is at

THE PARK ENTRANCE,

with a five-mile tour ahead of him. If physical habit permits, we recommend that this tour be made on foot. The drive, however, is very pleasant. A few steps inside the rustic turnstile, one can pause on the very brink of the cliff and enjoy an unobstructed view of both Falls. If the conditions of sun and wind are favorable, rainbows will add to the beauty of the scene. From the edge of the bank, the visitor looks down on the steep descent which winds down to the Ferry Landing. This is a historic old road, and has been described by writers for the past seventy-five years. From the landing the steamer *Maid of the Mist* plies across the river and up to the Horseshoe Fall. The landing and approach are a part of the Victoria Park, and under Government control, but the ferries are private concerns. It was down this road July 24, 1883, that Capt. Matthew Webb took his last walk on earth.

Proceeding, the visitor passes on his right the superintendent's office, a small brick structure, and comes to "Ramblers' Rest,"

a fine lookout on the brink of the cliff. To the right, nearly opposite this point, under the hill, are some small ponds which add to the diversity of the grounds. "Inspiration Point" is about one-fifth of a mile farther along; the view here is one of the best to be had. Beyond this, toward the Fall, are a restaurant, waiting-room, and picnic grounds, which the public may use without charge, under reasonable restrictions.

A few steps beyond, in front of the Table Rock House, take time for a careful outlook. Here Table Rock once extended over the river. (The data of its fall will be found on another page.)

Here is the most historic place for going "under the Falls." Old-time visitors, who descended by perilous ladders or fatiguing stairways, knew not the ease of the hydraulic lift by which the visitor of to-day is lightly dropped to the foot-path below. A spiral stair near by is still occasionally used. There is a charge of twenty-five cents for going down here, or fifty cents if an oil-cloth suit, obtained in Table Rock House, is worn. If one doesn't care whether he gets wet or not, the oil-cloths are superfluous, but if he is choice of his clothes, or is liable to take cold from a drenching, the oil-cloth rig would better be donned.

At the bottom of the elevator the guides lead the way along a path under the overhanging rock, and, for a short distance, under the edge of the Horseshoe Fall.

Look up; you will get an idea of height, weight, volume, and awful power, such as can nowhere else be had. From the point where the path ends a tunnel has been made through the rock, by which the visitor can advance one hundred and fifty feet farther behind the Fall, and look out from the more distant end at the back side of the great sheet of falling water, with occasional glimpses of the grand curve of the Horseshoe and the cliffs of Goat Island beyond. A Scotch mist is dryness itself compared to the state of things which the spray usually keeps up here.

Returning, notice, just before getting into the elevator, the remains of Table Rock at the river's edge below. The great crevice, which separates it into two huge fragments, came some time after the rock fell. Light but secure bridges make several interesting points down here easy of access.

According to old-time writers and pictures, this path under Table Rock ledge was formerly infested with rattlesnakes, as were many other points in the gorge; but it has been many a year since a rattler was seen there. The early travelers, too—they were famous for discovering wonderful things—have recorded that they found their advance behind the Fall made very difficult, or even impossible, by a mysterious force which they concluded was compressed air. One traveler tells how, after advancing as far as he could, he took up a stone and threw it with all his might into the cavernous space behind the falling water, whereupon, he says, it all at once stopped in its course, and fell suddenly, as if it had struck an invisible wall. He attributes the phenomenon to the highly compressed condition of the air behind the Fall. It is an experiment which every visitor may try for himself. People blessed with strong imaginations will get most wonderful results.

AMONG THE ISLANDS.

From Table Rock ledge the carriage-road and the foot-path—named “Rainbow Ramble,” because on sunny afternoons you are sure to see plenty of rainbows on the rising spray—lead alike to the bridge to Cedar Island, a long narrow island well overgrown with cedars. At the north end is a toll-gate. The rates are ten cents for pedestrians, twenty-five and fifty cents respectively for one and two-horse vehicles. These tolls, which are levied for the maintenance of bridges, etc., and the fee at the Table Rock elevator, are the only charges the visitor is called upon to pay while exploring the Victoria Park. In the narrow channel between Cedar Island and the main shore are two small islands, the larger one named Willow Island. From the upper end of Cedar Island, another bridge conducts back to the mainland. Before proceeding farther a few points should be noted. Opposite Cedar Island, on the bank which forms the western bound of the Park, are an interesting group of buildings, including a Roman Catholic church, monastery, and the Convent of the Lady of Loretto, regarding which interesting institution a few notes are given farther on. Falls View station, on the Michigan Central Railroad, is on the same height, about one thousand feet farther



Niagara from Falls View.—(After Water-color by Chas. Graham.)

south. All trains stop here long enough to give passengers a good general survey of the grand scene. The station platform is one hundred feet above the river. On Cedar Island there was formerly a wooden tower and observatory, but when the Government acquired the property it was taken down. Many springs of good water occur in the steep hill-sides.

The principal entrance to the Park, opposite the Clifton House, is from the old road now known as Central Ferry Street. Other entrances, each guarded by gates and stiles, are, in order from the most northerly, by the Jolly Cut, the Murray Street Ravine, and at the southern end of the Park, by the Prospect Drive, which is reached by the old Portage Road running from the Falls to Chippewa. Near Falls View station are two reservoirs of the Niagara Falls (Ont.) water-works. The stone pump-house of this system stands near the river's edge in the Park.

After regaining the mainland, above Cedar Island, the way lies along the river bank. To the right is an ample recreation ground, on the hill-side of which is a walk called "Botanist's Ramble." Just above is the gardener's residence. This is the best point to see the "White Horse Rapids," as the opposite cascades are called. The river descends here fifty-five feet in three-quarters of a mile. Sumach Island is passed on the right. A weir and old race-way is seen. This is the site of one of the first grist-mills in Upper Canada (now Ontario). Clark's Hill, the fine residence seat of a former owner, is on the right.

We now cross, by a fine steel suspension bridge, erected in 1879, to the Dufferin Islands. They are four, the smallest independently named Weed Island. The rapid arm of the river which cuts them off from the steep hill-side is called the Elbow. Numerous bridges connect the three largest islands; and Riverside Ramble, Lovers' Walk, Lovers' Retreat, and any number of "Bowers" seem to consecrate this secluded nook to lovers and the newly married. The group is well wooded, especially with cedar. Near Lovers' Retreat, on the uppermost islet, notice the curious growth of gnarled and prostrate cedar trees among the rocks. From the largest island another suspension bridge leads to the mainland at Dufferin Gate, through which one may pass and climb some steps to a summer-house on the

table-land above. Prospect Drive runs along the shore for a quarter of a mile above the line of breakers, and makes a loop at the extreme southern limit of the Park. The water rushes down into the "Elbow" at a reported rate of thirty miles an hour.

Near Dufferin Gate is a house which for many years covered the Burning Spring. A stream of natural gas burst from the rocks here, and was known even to the Indians. Afterward it was confined in a well, and as it bubbled up through the water was ignited for the delectation of visitors. For many years it has been worked as a great card; but a few years ago it stopped flowing, presumably because the gas-vein was tapped by wells near Chippewa; so that now there is no Burning Spring to see.

The conscienceless hackmen, however, will still offer to show the famous Burning Spring. If the visitor tells them to go ahead and show it, they will take him to a point outside the Reservation where a natural-gas pipe (the region between Lake Erie, the Welland Canal, and the Niagara River abounds in natural gas) is made to do duty as a "spring," and the stream is gravely ignited at twenty-five cents a show. There are two or three of these "springs" in the vicinity, outside the Victoria Park; the proprietors of the gas-pipes presumably pay a commission to hackmen for catching visitors.

It is one of the few petty little abuses of confidence which yet survive at Niagara Falls. They have grown beautifully less of late years. Government control on both sides of the river has done much to protect the public.

In both Parks there is an efficient police service.

On the return from the Park, stop at the large Museum Building and inspect the fine exhibit of minerals of Ontario. The collection was made by the Government for the Cincinnati Exhibition of 1887. There is no charge. The view from the cupola is a fine one.

There were two hundred and fifty-two thousand three hundred and seventy-nine visitors to Victoria Park in 1889. Of this number twenty-two and four-tenths per cent. came on Sunday; seventy-one per cent. were from the United States, eleven per cent. from Great Britain, and only ten per cent. from Canada. The maintenance of the Park in 1889 cost nineteen thousand and thirty dollars and eighty-eight cents.

THE LORETTINE CONVENT.

A most conspicuous object on the bluff above the Horseshoe Fall, Canada side, is the Loretine Convent of Our Lady of Peace. The present structure is but one wing of the proposed building; from its grounds and windows an unsurpassed view of the Falls and river is had. The Loretto Order originated in Bavaria, among the loyal British exiles who had taken refuge there in the last struggle of the Stuart. The name is taken from the Lady-chapel of Loretto. The Order came to America from Dalkey Abbey in Ireland, in 1845. The mother house, known as Our Lady of Loretto, is in Toronto. The convent of Our Lady of Peace, overlooking Niagara, was established about 1860. There are several other Loretine convents in Canada, but only one, it is believed, in the United States. That is in Illinois. The work of the Loretine nuns is chiefly educational; that is to say, this great building that makes a black silhouette on every Niagara sunset sky, is a Catholic boarding-school for young ladies, and most excellent is its reputation. To the devout it should be an object of especial interest. Pope Pius IX. granted the privileges of pilgrimage to this convent. The Sunday that the chapel here was dedicated, hundreds of pilgrims, after hearing mass in the city of Toronto, proceeded by steamer and railway to the shrine above Niagara. "When they came back," says the Rev. X. D. Macleod in his "History of the Devotion to the Blessed Virgin Mary in North America," "when they came back, at least upon the steamer, they chanted, with the sublime, perpetual voice of the cataract for *basso*, the Vespers of the Blessed Virgin. After which all knelt, with their faces towards Toronto, in adoration of the Blessed Sacrament, thanking the Redeemer there present, for their preservation from all casualties during that, the first pilgrimage to Our Lady of Peace."

The tourist will perhaps feel an added interest in the great cataract, when he learns that it has been consecrated, by Bishop Lynch, in 1861, "to the Blessed Virgin of Peace."

How many of America's grand scenic passages have been thus hallowed?

BELOW THE BRIDGE, CANADA SIDE.

The electric railway, Niagara Falls Park & River Railway, running between Chippewa and Queenston, stopping at all points of interest, affords magnificent points of observation. It is also a picturesque carriage ride, either for the whole or a part of the route. From the Falls to the Whirlpool, three miles, little of the river or gorge can be seen from the highway, except at the

WHIRLPOOL RAPIDS ELEVATOR,

where a comfortable descent to the water's edge may be made, the charge being fifty cents. The scene here is most interesting. The river is but four hundred feet wide, and of unknown depth. Note the heaped-up appearance of the water. Captain Webb was last seen alive in these rapids.

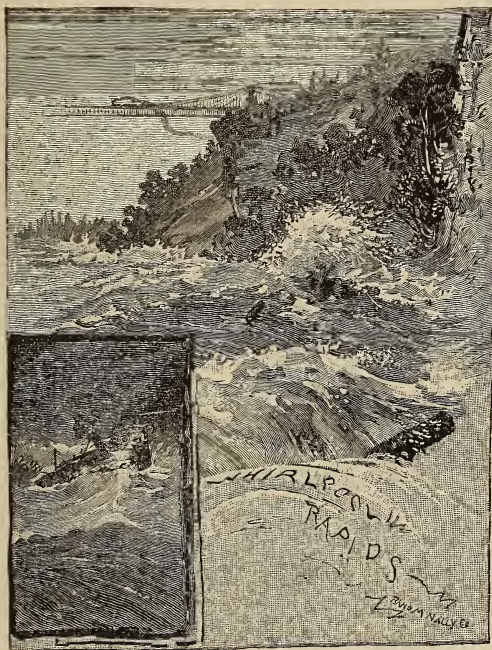
There are two elevators on the American side of these Whirlpool Rapids. One side of the river gives as effective a view as the other. From these points one gets a new idea of the height of the bridges.

THE WHIRLPOOL,

Three miles below the Falls, is now included in the "Niagara Falls Queen Victoria Park"—i. e., on the Canadian side. The Commissioners have projects for making it accessible which may be carried out by the time this Guide is in the hands of the public. For many years the Whirlpool elevator, Canada side, was owned and operated by Leander Colt, who built stairs, observatories, etc., and made his grounds attractive. In 1890 a small land-slide carried away a part of the elevator-way, stairs, etc., and the property passing into the hands of the Government, was not restored for the use of tourists.

The Whirlpool is a circular basin in the hill, into which the river rushes from the south, and out of which it escapes to the northeast. The gorge at the outlet is so narrow that good throwers can put a stone across it; it has been repeatedly done, but not—to our knowledge—by any lady. The distance is about four hundred and fifteen feet. The cliffs are three hundred and fifty feet high.

Viewed from above, on either side, the Whirlpool does not appear to be a rough or turbulent expanse of water; and a frequent exclamation is, "Where is *the* Whirlpool?" the visitor expecting to see a great current rushing round and round, with a terrible funnel-like hole in the middle, into which everything is hopelessly sucked.



No idea could be further astray. The waters of the Whirlpool are highest in the middle; actually heaped up, as they emerge from the narrow gorge above. They rush straight across the basin to the opposite shore, where there is a parting of currents. One great eddy sweeps back in a long ellipse, following the contour of the west side of the pool; another current turns

in the opposite direction, and is itself parted, a portion of its waters escaping at once down the outlet toward Lake Ontario, and a portion turning back and forming a great eddy on the opposite side of the main inrushing current from that first named. Then, too, the waters that skirt the American shore turn for the most part into the outlet without being detained in the basin of the Whirlpool at all. This splitting of the current, and confusion of the back currents and under-currents, keeps the expanse of the pool constantly changing, but with certain tolerably constant features as here described. There may be a dozen little whirlpools and eddies at a time, any one of them liable to engulf and drown a swimmer, or swamp a boat. Yet fortunate currents might carry even a feeble swimmer (assuming that he had escaped the Rapids above) through the Whirlpool without harm. It often happens that logs, etc., borne near the American side, are swept around the bend into the outlet, and not carried into the Whirlpool at all.

The athletic tourist who can get to the water's edge of the Whirlpool, Canada side, has sights to see not surpassed anywhere on the river. (Proposed improvements will soon make it easy of access for all.) He is surprised to find the waves much larger than he thought when on the bank above. Following down-stream, around the bend of the Whirlpool, he comes to a rocky run, over which a pretty stream falls. It is called Swiss Glen. The margin of the Whirlpool may be followed quite around to the outlet, and there are comparatively quiet spots where young men sometimes bathe, but always at foolish risk.

THE WHIRLPOOL, AMERICAN SIDE.

On the American side, the Whirlpool is approached through the grounds of De Veaux College, an Episcopal school for boys with a military *régime*. The income from the stairs which lead to the bottom of the cliff is a source of revenue to the institution. The uniform charge at the elevators, etc., is fifty cents. The waiting-rooms of all of them are well stocked bazaars. The views from the top of the bank, American side, are comprehensive and grand. January 7, 1886, the Niagara Falls & Whirl-



Whirlpool Rapids.

pool Railway was incorporated. It has since been consolidated with the Niagara Falls & Lewiston Railroad, and the latter's name. The project was to build a narrow-gauge line on the American side, down in the gorge as near to the water's edge as possible, from a point near the foot of the inclined railway in Prospect Park to the Whirlpool, the terminus being the spot now reached by the foot-path from the De Veaux College grounds. Difficulties in securing right of way have kept the plan from being carried out; but it is not unlikely that the road will sometime be built, and even extended through the gorge to Lewiston.

THE UNKNOWN NIAGARA.

Between the Whirlpool and the towns of Queenston and Lewiston, the river rushes through a deep gorge. On the Canada side, a mile below the Whirlpool, are Foster's Flats, where the precipitous walls trend back from the water's edge, making room for a few heavily-wooded acres of lowland. The river is very turbulent here, and the Foster's Flats Rapids is a wild stretch of half a mile. It is practically a continuous rapid to Queenston, where the gorge ends. From this point to Lake Ontario, seven miles, the river is placid, navigable for large lake steamers, and is a famous fishing-ground. This deep gorge is one of the wildest and most romantic passages in American scenery; but to all except a few surveyors, scientists, and fishermen, it is practically an unknown part of Niagara.

THE MAID OF THE MIST.

No visit to Niagara is complete that does not include a trip on the *Maid of the Mist*. This stanch little craft made her first trip June 13, 1885, and has run regularly and without mishap during the season ever since. She is seventeen feet long, sixteen feet beam, seven feet hold. The hull is of white oak, and contains three tight compartments. She is owned in Canada, and registers from St. Catharines, the nearest Canadian port.

She is the third *Maid of the Mist* which has plied as a ferry on the Niagara below the Falls. The first was built in 1846, but was

cranky, and in 1854 was replaced by the second, on which, in the spring of 1861, Joel Robinson made his perilous trip to Lewiston. No accident has ever occurred at this ferry, either to steamers or row-boats. The task of rowing a boat across the boiling Niagara looks to the novice like a perilous one; but the experienced river-men, by taking advantage of currents, and by knowing the signs of the river, do not find it very heavy navigation.

The *Maid of the Mist* usually crosses the river from the Canadian to the American shore, then runs up-stream past the American Fall, and as close to the Horseshoe as is safe, returning to the Canadian dock. The visitor who has been disappointed in the height of the Falls, as seen from the shores above, will get all over that feeling as he looks up at them from the steamer's deck. The very windows of heaven seem to be open, and the floods to be descending from the skies.

AMONG THE BAZAARS.

Whoever has traveled much, especially among American resorts, has observed that there are certain stock "curiosities" offered for sale at the bazaars of these favored places. The knick-knack shops of Niagara Falls and St. Augustine, Fla., for instance, have a strong "family resemblance," except that one is rather given over to baby alligators, and the other to Indian bead-work. The bazaars at Niagara are really very interesting places, though most of the commodities offered for sale, the countless and excellent photographs excepted, have little, if any, relation to the Falls.

The museums here, however, have long been celebrated. Mr. Thomas Barnett, who died in 1890, established, in 1828, a museum on the Canada side of the river, near Table Rock. It was the first museum of any kind in Canada, and became known far and wide. At that time the present site of Queen Victoria Park was a cedar swamp, and the Falls could not be seen from the museum. For some years Mr. Barnett showed great energy in enlarging his collection. He sent his son to Egypt and secured one of the finest collections of mummies ever brought to America. Many countries were searched for strange things. As the stock increased, the

large stone building in the park was built, and handsome grounds were laid out. The late Saul Davis was another pioneer museum man. He was for a time Mr. Barnett's active rival, and finally bought the Barnett collection and combined it with his own. When the Victoria Park was established, this celebrated museum was moved to Niagara Falls, N. Y., where it now occupies a suitable building opposite the State Park.

WINTER SCENERY.

The Falls are always grand, but their winter scenery varies exceedingly. Sometimes it is dirty and dingy, the stream running dark and muddy, the cliffs dripping mud and the islands



Niagara in Winter.

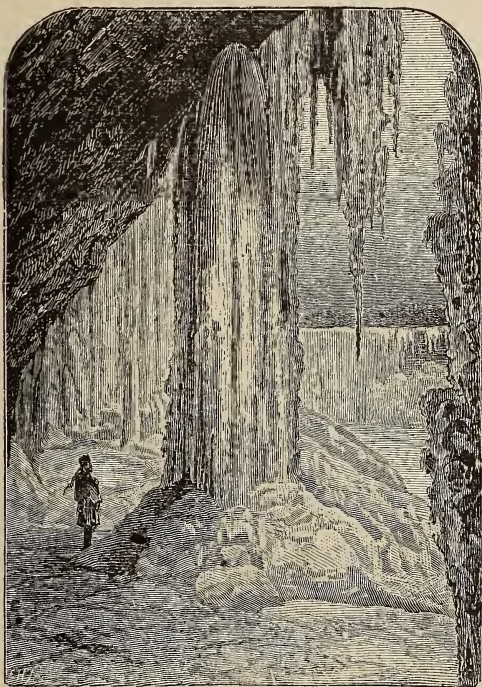
being bare and dreary. (Not even heavy snow makes fine scenery on the tree-clad islands and shores. Sometimes the winter scenery is wonderfully beautiful. It is the frozen spray from the Falls that works the transformation. The wind and the mist are conjurors there. Sometimes the conditions are such that the spray scarcely touches the trees for days at a time. Then comes a shift of wind, the spray is poured over the evergreen cedars or the bare branches and twigs of other trees, and a single night completes the grand transformation, clothing every object in a



The American Fall from below Goat Island.

shining armor of ice, which may last for weeks if the temperature remains low.

Another and more substantial type of the scenery at the Falls consists of the great icicles, and stalagmites, and pillars of ice, which form under the cliffs. Under Table Rock ledge, and in the Cave of the Winds, these beautiful formations are usually to be found in winter.)



Icicles and Stalagmites under American Fall.

✓ The so-called ice-bridge is the greatest winter wonder at Niagara. The name is a little misleading. No span of ice, arching across the Falls or the river, ever forms. The ice-bridge is merely

the accumulation of broken ice below the Falls. It usually forms late in the winter, and often does not form at all. The necessary conditions preceding it are that there should be heavy ice in Lake Erie, and that it should break up and go over the cataract in large quantities. It then becomes impacted in the narrow gorge, its lower edge being above the beginning at the Whirlpool Rapids, and its upper edge sometimes extending as far up-stream as the American Fall. It is thus a great ice-floe, with upheaved hillocks and great fissures, testifying to the constant pressure. It is often forty feet thick. As soon as considered safe, paths are made from shore to shore, and sometimes shanty restaurants and shelters are built in mid-stream. The river is carefully watched for signs of a break-up, for once the ice goes, it goes with a rush. Woe be to any unhappy mortal carried down with it!

The ice-mountain forms the foot of the American Fall. It is a great cap of frozen spray which is built up on the rocks, sometimes one hundred feet high. There have been winters when the ice-mountain and ice-bridge were formed together, and afforded ideal facilities for coasting; but such seasons are few and far between.

HINTS AT NIAGARA'S HISTORY.

THE NAME "NIAGARA."

The word "Niagara" is a household word all over the world. It is applied only to the locality, and is to-day the synonym for the ideal water-fall. It is of Indian origin, for the Indians once inhabited this country, and much of the nomenclature of Western New York is traceable directly to them. Niagara has been said by Schoolcraft, and many who have taken him as authority, to mean, "The Thunderer of Waters." The late Orasmus H. Marshall, a high authority in Indian languages and Niagara history, denies this. "The Mohawks," he says, "affirm it to mean *neck*, in allusion to its connecting the two lakes." It is the same in the language of the Mohawks and the Neuter Nation. The Hurons dwelt north of this section, and the Iroquois south of it. So the Niagaras, dwelling between the two, and at peace

with each, came to be called the Neuter Nation, in whose wigwams the warriors of these two tribes met in peace.

Niagara is said to be one of forty known ways of spelling the name—Ongniaarhra, Nicariagas, Ongiara, Onyakara, being the more common forms met with in old traditions.

The Neutral Nation was also called Attouanderonks by other tribes—that is, a people speaking a little different language; for their dialect was different from that of any other tribe, though partially understood by all. Both these names, as well as Niagaras and Kah-Kaws, were used so as to distinguish their location.

The Neuter Nation was destroyed or absorbed by the more powerful Iroquois about 1650, permanent neutrality being an untenable ground. The Senecas then occupied their lands.

Almost a hundred years after this, a small remnant gathered together and went back to the famous home of their fathers, but they lived there only a few years and, dying off, left no descendants to perpetuate their tribe.

FIRST KNOWLEDGE OF THE RIVER.

The River Niagara was well known to the Jesuits as early as 1640 though none of them had visited it at that time. Lalemant speaks of it as the “famous river of this (the Neutral) nation.” The following translation, from his “Relation” of 1641, shows that both Lake Ontario and Lake Erie had already taken their present names:

“This river (the Niagara) is the same by which our great lake of the Hurons, or Fresh Sea, discharges itself, in the first place, into Lake Erie (*le lac d’Erié*), or the Lake of the Cat Nation. Then it enters the territories of the Neutral Nation, and takes the name of Onguiaahra (Niagara), until it discharges itself into Ontario, or the Lake of St. Louis; whence at last issues the river which passes before Quebec, and is called the St. Lawrence.” He makes no allusion to the cataract, which is first mentioned as follows by Ragueneau, in the “Relation” of 1648:

“Nearly south of this same Neutral Nation there is a great lake about two hundred leagues in circuit, named Erie (*Erié*), which is formed by the discharge of the Fresh Sea, and which



Father Hennepin's Sketch.

precipitates itself by a cataract of frightful height into a third lake, named Ontario, which we call Lake St. Louis."

We do not know when white men first visited Niagara, though after the discovery of the St. Lawrence, in 1534, any of the traders and adventurers who sought this region may have done so at any time.

Jacques Cartier, in his description of his second voyage, 1536, speaks of a cataract, but he never saw it. Samuel Champlain, in a book of his voyages, published in 1613, indicates a water-fall on a map.

In 1648, the Jesuit Father Ragueneau, in a letter, speaks of the cataract, and locates it very correctly; and on Sanson's Map of Canada, 1657, it is indicated.

Du Creux, in 1660, in a work, "*Historiæ Canadensis*," indicated Niagara on a map, but he did not describe the Falls, and it is doubted if he ever saw them.

The first description that we have is that of Father Hennepin, published in 1678 of which we here quote a part:

CHAP. VII.

A description of the Fall of the River Niagara, which is to be seen betwixt the Lake Ontario and that of Erie.

Betwixt the Lake *Ontario* and *Erie*, there is a vast and prodigious Cadence of Water, which falls down after a surprizing and astonishing manner, insomuch that the Universe does not afford its Parallel. 'Tis true, *Italy* and *Suedeland* boast of some such Things; but we may well say they are but sorry patterns, when compar'd to this of which we now speak. At the foot of this horrible Precipice, we meet with the River *Niagara*, which is not above a quarter of a League broad, but is wonderfully deep in some places. It is so rapid above this Descent, that it violently hurries down the wild Beasts while endeavoring to pass it to feed on the other side, they not being able to withstand the force of its Current, which enevitably casts them headlong above Six hundred foot high.

This wonderful Downfall is compounded of two cross-streams of Water, and two Falls, with an isle sloping along the middle of it. The Waters which fall from this horrible Precipice, do foam and boyl after the most hideous manner imaginable, making an outrageous Noise, more terrible than that of Thunder; for when the Wind blows out of the South, their dismal roaring may be heard more than Fifteen Leagues off.

The River *Niagara* having thrown it self down this incredible Precipice, continues its impetuous course for two Leagues together, to the great Rock above mention'd, with an inexpressible rapidity: But, having passed

that, its impetuosity relents, gliding along more gently for other two Leagues, till it arrives at the Lake Ontario or Frontenac.)

Any Bark or greater Vessel may pass from the Fort to the foot of this huge Rock above mention'd. This Rock lies to the Westward, and is cut off from the Land by the River *Niagara*, about two Leagues further down than the great Fall, for which two Leagues the People are oblig'd to transport their goods overland; but the way is very good; and the Trees are very few, chiefly Firrs and Oaks.

From the great Fall unto this Rock, which is to the West of the River, the two brinks of it are so prodigious high, that it would make one tremble to look steadily upon the Water, rolling along with a rapidity not to be imagin'd. Were it not for this vast Cataract, which interrupts Navigation, they might sail with Barks, or greater Vessels, more than Four hundred and fifty Leagues, crossing the Lake of *Hurons*, and reaching even to the farther end of the Lake Illinois, which two Lakes we may easily say are little Seas of fresh water.

The rock above mentioned was a huge boulder or mass that was found on the river bank near the foot of the mountain, and just above the village of Queenston. When the old suspension bridge was built at this point, the débris thrown down by workmen blasting for foundations partially covered the rock, but a portion of it is still visible near the western end of the ruined bridge.)

Hennepin was the priest and historian who accompanied the French explorer Robert Cavalier, commonly called La Salle. This leader ascended the St. Lawrence, built a trading-post at Fort Niagara, visited the Falls, and built in Cayuga Creek, on the American side, five miles above the Falls, the *Griffin*, sixty tons burden. August 7, 1679, she set sail, the first white man's vessel that ever floated on the Upper Lakes. She crossed lakes Erie and Huron, and safely reached Green Bay, Lake Michigan, where La Salle, Hennepin, and others left her, and made their way to the present site of Chicago, and thence to the Illinois and Mississippi. The *Griffin*, loaded with furs, undertook to sail back, but was never heard of, and was undoubtedly lost in the northern part of Lake Michigan.)

GEOGRAPHICAL.

THE NIAGARA RIVER.

The Niagara River, one of the shortest but one of the most famous rivers in the world, is a part of the system by which the

waters of the Great Lakes are carried to the ocean. Its entire length is only thirty-six miles—twenty-two miles from Lake Erie to the Falls, and fourteen miles from the Falls to Lake Ontario.

The Niagara River is merely one link in the chain which conducts the waters of Lake Superior to the Atlantic. It is called the Niagara River between the two lakes, Erie and Ontario. When it leaves Lake Ontario it is the River St. Lawrence, which is seven hundred miles long, and falls into the Gulf of St. Lawrence.

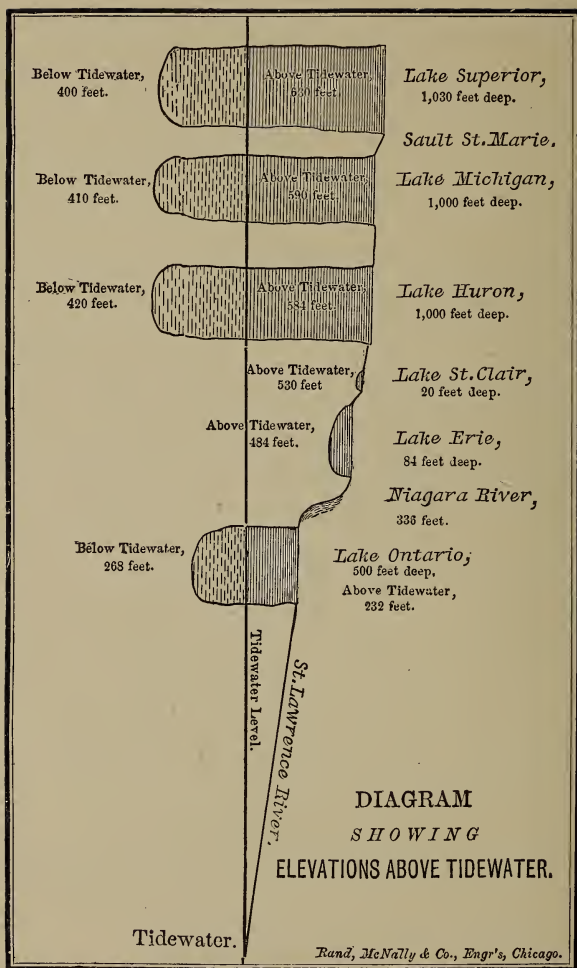
It is part of the boundary-line between the United States and Canada, so decreed by the treaty of Ghent, in 1815. By that treaty, the boundary-line runs through the center of the Great Lakes, and through the deepest channels of the rivers. By this means, over three-fourths of the islands in the river, including all the important ones but one, belong to the United States. Of these islands there are in all thirty-six, of which Grand Island is the largest, and Goat Island the most famous.

In its course the river falls three hundred and thirty-six feet, as follows: From Lake Erie to the Rapids above the Falls, fifteen feet; in the Rapids, fifty-five feet; at the Falls, one hundred and sixty-one feet; from the Falls to Lewiston, ninety-eight feet; from Lewiston to Lake Ontario, seven feet.

Its sources are: Lake Superior, the largest body of fresh water in the world, three hundred and fifty-five miles long, one hundred and sixty miles wide, one thousand and thirty feet deep; Lake Huron, two hundred and sixty miles long, one hundred miles wide, one thousand feet deep; Lake Michigan, three hundred and twenty miles long, seventy miles wide, one thousand feet deep; Lake St. Clair, forty-nine miles long, fifteen miles wide, twenty feet deep; Lake Erie, two hundred and ninety miles long, sixty-five miles wide, eighty-four feet deep.

Several smaller lakes, with one hundred rivers, large and small, pour their waters this way, draining a country of more than one hundred and fifty thousand square miles. This is the drainage of almost half a continent, and whose remotest springs are two thousand miles from the ocean.

With such a supply, it is not surprising that the volume of the Niagara River is never noticeably diminished.



Through the mouth of the St. Lawrence more fresh water pours into the ocean than through the mouth, probably, of any one river in the world.

The river, over the American Fall, falls one hundred and sixty-seven feet, and over the Canadian one hundred and fifty-eight, the difference being caused by the greater accumulation of rock at the base of the former.

The Niagara is never frozen over, but it accumulates more ice than any other river in the world.

From records kept, a rise in height of water of one foot at top of Falls will, by actual measurement, raise it seventeen and one-half feet below.

On the surface below the Falls, the current, when the water is smooth, runs on an average about six or seven miles per hour. Sailors say about thirty or forty feet deep it runs at least ten or twelve knots. And this is the reason, we think, why saw-logs and other bodies plunging over the Horseshoe Fall are not seen until they come up at the Whirlpool, a distance of three miles.

There is a tradition that there is a periodical rise and fall in the level of the lakes, embracing a period of fourteen years. In 1843, 1857, and 1871, the Niagara River was very low.

March 29, 1843, a heavy gale from the west caused the highest water ever known. The water rose six feet perpendicularly on the Rapids.

INCIDENTS OF THE PAST.

The historical associations that are connected with this section of the country, and with this famous river, are numberless. From the earliest days of the red men's rule, through the long French and English wars to the closing of our own War of 1812, its borders have been the scene of many bloody conflicts and of countless deeds of strategy and heroism.

A line of forts, at first only palisades, but gradually strengthened into permanent forts, extended all along the river. Forts Erie, Niagara, and Mississaga on the Canadian, and Forts Porter, Du Portage, Schlosser, Little Niagara, Grey, and Niagara on the American side, are but links in the great chain of defenses erected at various times along the frontier.

Frequent contests were carried on between the French and English, each one assisted by faithful Indian allies, and the results were both bloody and destructive, as neither party, even were it so disposed, could always repress the Indian nature, as shown in the determination to burn and scalp after a battle.

This contest between French and English in America was carried on for over a hundred years, and finally ceased in 1763, when the French rule in North America was wiped out. It virtually ceased in 1759, after the capture of Quebec by General Wolfe.

After the Declaration of Independence, this section saw a few years of comparative quiet, and the settlement of Western New York prospered. The defense of this boundary was also considered, though the next war saw the British in possession, at one time, of the entire American bank of the Niagara.

The declaration of the War of 1812 threw this section into a ferment. Buffalo and Fort Niagara were the American strongholds, Fort Erie and Queenston Heights those of the British.

August 11, 1812, General Van Rensselaer, of the New York militia, established headquarters at Lewiston. October 15th he crossed the river and captured Queenston Heights. Soon after General Brock arrived and attacked him. Brock was killed in the engagement. Another reinforcement of British soon arrived. As Van Rensselaer's volunteers on the American side proved to be cowards, and refused to cross to aid their comrades, these fellows were totally defeated in sight of their comrades. This was the chief event of the year 1812 on the frontier.

Late in the year 1813 General McClure crossed from Fort Niagara and destroyed the Canadian town of Newark; but thinking Fort Niagara secure, he returned to Buffalo. Colonel Murray, of the English, surprised Fort Niagara and captured it, December 19, 1813. Then the people were terror-stricken, and fled for their lives. The Indians, the old allies of the English, were drawn to their standard, and scoured the country. The British captured and burned Lewiston, Niagara Falls, and the Tuscarora village, between December 20th and 29th, and Buffalo, December 30th.

Early in 1814 General Brown took command, and with him were Scott, Gaines, Porter, Miller, and others. Then the campaign was pushed with zeal and energy. Then followed victories—

Chippewa, Lundy's Lane, the famous sortie from Fort Erie, and the total defeat of the British; and soon after these, peace, resulting for the Americans, according to Lord Beaconsfield's famous aphorism, in "Peace with honor."

GOAT ISLAND.

Originally, the first man who had any right to name "*Goat*" Island called it very properly "*Iris Island*," and it ought to be known under that appellation. It owes its present singular name to a local fact. In 1779 a Mr. John Stedman, having cleared a portion of the upper end of the island, placed some goats (notable among them an aged male goat) upon it. During the ensuing winter it was impossible to reach the island, and the animals were killed by the cold. The people named the island, after the representative of the flock, "*Goat Island*," a cognomen which has ever since adhered to it.

These islands were originally owned by the State of New York. At one time it was proposed to establish a prison, and at another time an arsenal, at Goat Island.

In 1814 General and Judge Porter bought of Samuel Sherwood a paper called a *Float*, given by the State as pay for military services rendered, authorizing the bearer to locate two hundred acres of land on any of the unsold or unappropriated land belonging to the State. Part of this they located on Goat and other adjacent islands, immediately above and adjoining the Great Falls, their patent bearing date 1816, and signed by Daniel D. Tompkins as Governor, and Martin Van Buren as Attorney-General of New York. An early record says the island once contained two hundred and fifty acres of land; at present the group contains some sixty-five acres. The area of Goat Island is sixty-one and a half acres; its circumference about one mile. A strip about ten rods wide and eighty rods long has been washed away on the south side since the first road was made, in 1818. Long before it was bridged, it was visited from time to time by persons to whom its attractions were of more importance than the peril of reaching it. The late Judge Porter, who visited it in 1805, found names cut in the bark of a beech near the Horseshoe Falls, with the subjoined dates of 1771, 1772, and 1779.

THE ISLAND BRIDGES.

The first bridge to this group was built in 1817, and reached to the head of Goat Island. The next winter the high water and the ice washed it away.

In 1818 another bridge was built, but lower down, on the site of the present one. This was repaired frequently till 1856, when the present iron bridge was constructed. The foundation consists of oak cribs filled with stones and covered with plates of iron. The superstructure is of iron, and consists of four arches of ninety feet span each, supported between these piers. The whole length of the bridge is three hundred and sixty feet, and its width is twenty-seven feet. Of this a double carriage-way occupies sixteen and a half feet, and two foot-ways, one either side of the carriage-way, five and a quarter feet each. Visitors often ask how the first bridge was built over the Rapids.

A suitable pier and platform was built at the water's edge; long timbers were projected over this abutment the distance they wished to sink the next pier, heavily loaded on the end next to the shore with stones, to prevent their moving. Legs were framed through the ends of the projecting timbers, resting upon the rocky bottom, thus forming a temporary pier, around which a more substantial one was built. These timbers were then securely fastened to this pier, cross-boards were spiked on, and the first section was done. The plan was repeated for each arch.

TABLE ROCK.

One of the most famous points about Niagara in the old times, now gone forever, was Table Rock. This was on the Canada side, about ten rods below the Falls, and was simply a huge ledge of rock overhanging the precipice.

Table Rock was originally very large, but its form and dimensions were changed by frequent and violent disruptions. In July, 1818, a mass broke off one hundred and sixty feet in length, and from thirty to forty feet in width. December 9, 1823, three immense portions, reaching under the Horseshoe Fall, fell "with a shock like an earthquake." In the summer of 1829 another large mass fell off, and June 26, 1850, a piece two hundred feet

long and sixty feet deep fell, the last piece of the Table. Another large mass fell in 1886. The latest considerable fall was on January 12, 1887.

It was on Table Rock that Mrs. Sigourney wrote her spirited "Apostrophe to Niagara." Standing right at the edge of the water, just where it pours over, a grander or more imposing sight can not be found on the continent.

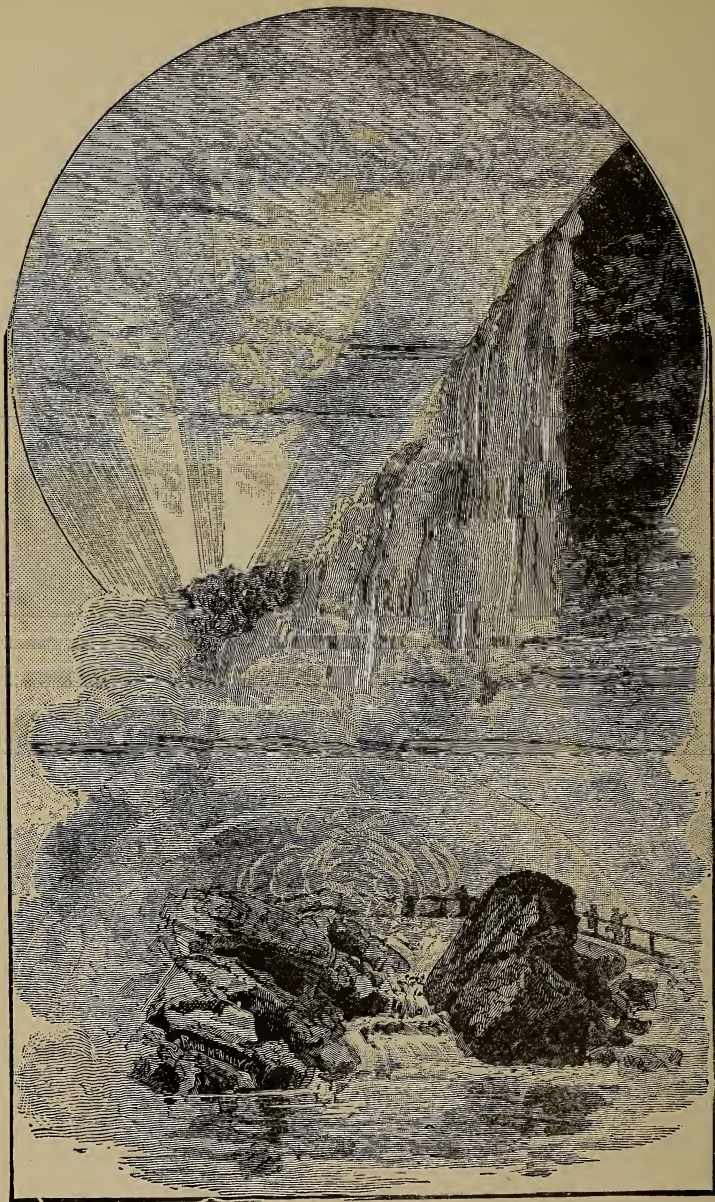
PHENOMENA OF THE FALLS.

On March 29, 1848, a strong east wind drove the water back into Lake Erie. The heavy ice was wedged in at the mouth of the river. This dammed the water up, and soon the river was nearly dry. The rocks under the Rapids were bare, and people walked and drove over them. The Falls, of course, shrank to a mere nothing. The next morning the ice was forced out and Niagara resumed its sway, but the sights and the experiences of that day were novel ones.

The average depth of the river from Lake Erie to the Falls is about twenty feet. In some places it is over two miles wide. At the narrowest point, near the Whirlpool, the current is above forty miles per hour, and at the widest part about four miles per hour.

Between the Falls and the Whirlpool the depth varies from seventy-five to two hundred feet. At the Whirlpool Rapids it is estimated at two hundred and fifty feet; in the Whirlpool at four hundred. But it should be recalled that this is the depth of the water alone. The mass of stone, gravel, shale, etc., which in one way and another has been carried into the channel, lies below the water and above the original bottom of the gorge, which, therefore, is probably as deep again. Various estimates have been given of the amount of water going over the Falls. A point three hundred feet wide below the Falls being selected, the depth estimated, and the velocity of the current known, it is estimated that one billion five hundred million cubic feet passed that point every minute.

Another estimate says that one hundred million tons pass through the Whirlpool every hour.



A View of the Falls from Hurricane Bridge.

Judge DeVeaux estimated that five billion barrels go over every twenty-four hours; two hundred and eleven million eight hundred and thirty-six thousand eight hundred and fifty-three barrels an hour; three million five hundred and thirty-six thousand six hundred and fourteen barrels a minute; fifty-eight thousand three hundred and forty-three barrels each second.

The Falls are in latitude $43^{\circ} 6'$ north; longitude $2^{\circ} 5'$ west from Washington, or $79^{\circ} 5'$ west from Greenwich.

The Horseshoe Fall has an aggregate length of two thousand three hundred and fifty feet; the American Fall, about eight hundred feet.

Hennepin speaks of three falls, the third formed by the huge masses of rock situated where Table Rock stood. These rocks were of great extent, and the water being obliged to flow around them formed the third Fall, and this Fall fell inward and at right angles to the present Fall. Seventy years later, 1751, this third Fall had disappeared, though still told about by the Indians. The reason was because the big rock had been crumbled away, and the channel of the big or center Fall had been cut deeper, thus draining this higher channel.

The spray rises up in the heavens like smoke, and can be seen for a long way, especially when the rays of the sun are upon it. Judge Porter said he had thus seen the spray at a distance of one hundred miles.

If the wind is up the river, the view of the Falls is not obstructed, but if it is blowing down the river, it is difficult to get any view of the Falls.

In 1840 Gull Island, south of Goat Island, contained two acres of land. The storm of 1847, and the continued encroachments of the river, cut it all away, there being hardly a trace of it now.

The view of the Falls at sunrise and sunset is particularly grand.

The moonlight views of Niagara are indescribably weird and delicate, and it will repay the traveler to journey far to see them. Solar bows, formed by reflection of the sun and spray, can be seen on any bright day when the visitor is between the sun and the spray. Lunar bows, seen at night, are formed in a similar way, by lunar beams. The spectator must be similarly placed.

The roar of the Falls can be heard a long way if the wind blows toward the listener. It has been heard at Toronto, forty-four miles, and at Buffalo, twenty-two miles. When the wind blows from the listener the roar is hardly heard, even when one is within a few feet of the cataract. It is not ordinarily noticeable in the village of Niagara Falls. On the Canada side near the Horseshoe, the roar is not to be shut out. Especially at night do the roar and spray sound like a tremendous rain-storm. Many a stranger, hearing it in the morning as he awakens, is amazed on looking out to find a smiling sky.

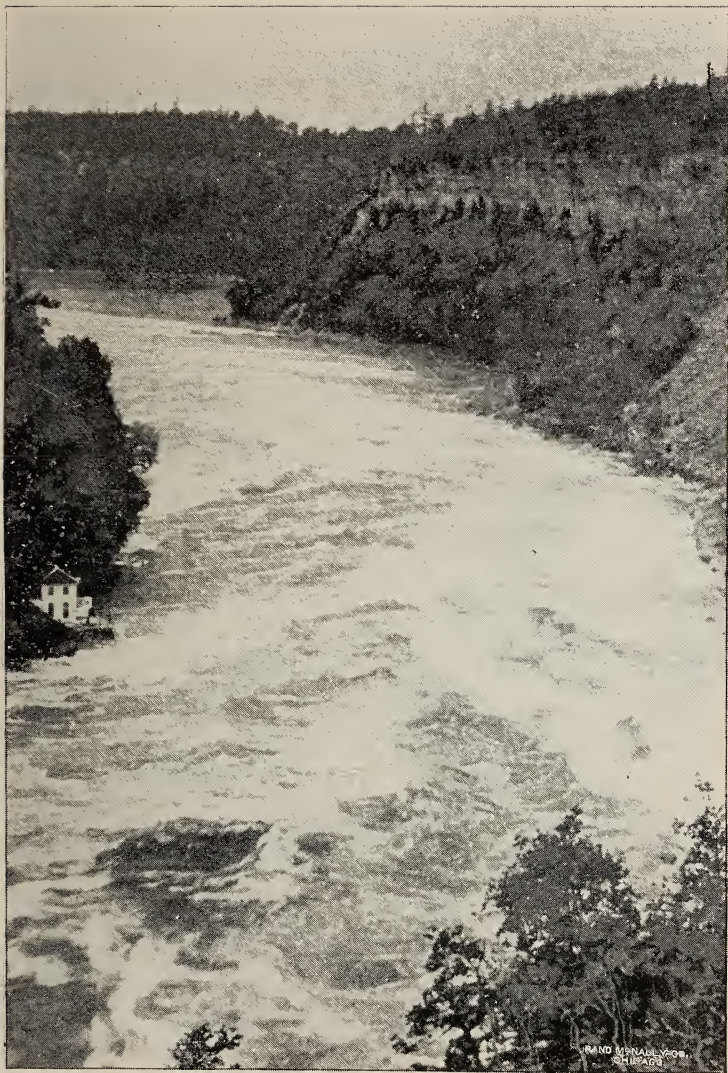
VILLAGE OF NIAGARA FALLS.

The village of Niagara Falls was incorporated July 6, 1848, under the General Act of New York passed in 1847. It has a population of five thousand four hundred and ninety-one, by the census of 1890. Suspension Bridge village has four thousand two hundred and eighty-six. On both sides of the river it is estimated that the average annual number of visitors to Niagara is four hundred thousand. It is located in what is known as the Mile Strip, a strip of land one mile in width along the whole length of Niagara River, reserved by the State in its early sales, and sold by the State about 1800. According to the State divisions, there were about one hundred lots in the strip, lot No. 42 being located at the Falls.

After the freedom of the United States had been recognized, a dispute arose as to who should own that part of Western New York lying west of Seneca Lake. Commissioners finally gave New York the jurisdiction and Massachusetts the ownership. It would seem that the land was first sold to Phelps & Gorham, and as they partially failed to fulfill their agreement, Robert Morris acquired it, and afterward sold the western part to the Holland Land Company, though the Mile Strip was not included in any of the above sales. The part purchased by the company is known as the Holland Land Purchase.

The village was originally named Grand Niagara, then Manchester, and finally Niagara Falls.

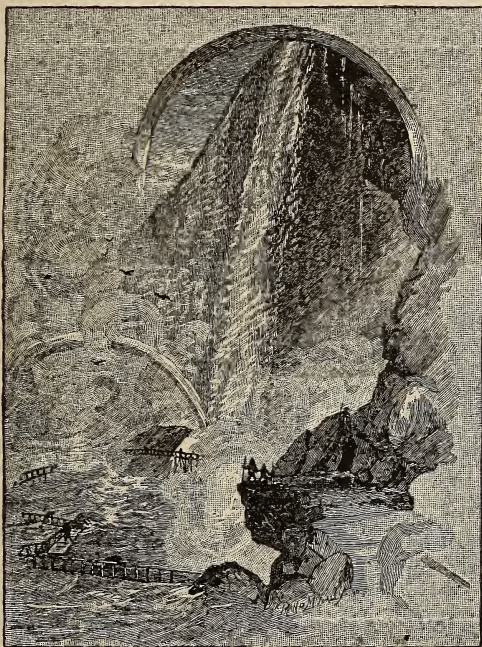
Numberless accidents have happened at Niagara—suicides, murders, drowning, over the Falls, etc. One or two accidents are



Rapids below the Falls,

RAND MAP & ALY. CO.
CHICAGO

specially mentioned in this work, but it would be useless to give a full list of even known accidents. The number of those who have taken the fatal plunge at night, unseen save by the "Eye that sleepeth not," can never be ascertained. Some years there will be no known accident; again, there have been twelve in a single season.



American Fall, Hurricane Bridge.

A famous accident was that of July 19, 1853. Early in the morning a man was seen on a rock in the American Rapids, midway between the Falls and Goat Island. He proved to be a Mr. Avery, who in crossing the river had been drawn into the Rapids and had caught there. People flocked from all over the country to see him. Boats and ropes were lowered. Several boats were

lost, and two sunk near him. Food was sent to him in tin cans. A raft was made and lowered, and reached him safely. He got on it and seized the ropes. It was floated over to Chapin Island, but caught there. A boat was lowered and touched the raft. Avery stepped forward to get into it. The raft tipped, and he fell into the river and was carried over the Falls after an eighteen-hour struggle for life.

Of late years accidents are fewer, but suicides were never so frequent as during the decade from 1880 to 1890; probably because the country has become very populous and the Falls are easier of access than ever before. It is likely, too, that many a wrong-doer sets out to leave the States for Canada, or vice versa, intending to flee across the boundary at Niagara; but while there, either overcome by remorse or tempted by the unusual facilities for self-destruction, he ends his errors with a jump.

NIAGARA'S SCIENTIFIC ASPECTS.

GEOLOGICAL.

Within the memory of men now living, the Falls have receded one hundred feet. This naturally prompts the question, Where did the retrocession begin? Geologists tell us, and their answer is accepted as conclusive, at the mountain near Lewiston. The whole waters of the lakes there foamed over this dam, which was several miles in width. This accounts for the shells, etc., which have been found on Goat Island, it having been submerged; also for the shells found on the land along the river up stream—shells which enabled Lyell, and Hall, and others, to prove that the Niagara once flowed through a shallow valley.

That the stream cut the gorge is, geologically, equally decided. There is no better place to study geology and the strata of rocks than this gorge that Niagara has cut. Mr. Allen, in his guide-book, says:

Not only has the Niagara River cut the gorge; it has carried away the chips of its own workshop. The slate being probably crumbled, is easily carried away. But at the base of the Fall we find large boulders, and by some means or other they were removed down the river.

The ice which fills the gorge in winter, and which grapples with the boulders, has been regarded as the transporting agent. Probably it is so to

some extent. Put erosion acts without ceasing on the abutting points of the boulders, thus withdrawing their support and urging them down the river. Solution also does its portion of the work. That solid matter is carried down is proved by the difference of depth between Niagara River and Lake Ontario, where the river enters. The depth falls from seventy-two feet to twenty-five feet, in consequence of the deposition of solid matter caused by the diminished motion of the river. Near the mouth of the gorge at Queenston, the depth, according to the Canadian Admiralty chart, is one hundred and eighty feet, while within the gorge it is one hundred and thirty-two feet.

We may add a word regarding the proximate future of Niagara. At the rate of excavation assigned to it by Sir Charles Lyell—namely, a foot a year—five thousand years or so will carry the Horseshoe Fall far higher than Goat Island. As the gorge recedes it will drain, as it has hitherto done, the banks right and left of it, thus leaving nearly a level terrace between Goat Island and the edge of the gorge. Higher up it will totally drain the American branch of the river, the channel of which will in due time, become cultivatable land. The American Fall will then be transformed into a dry precipice, forming a simple continuation of the cliffy boundary of the Niagara. At the place occupied by the Fall at this moment we shall have the gorge inclosing a right angle, a second Whirlpool being the consequence of this. To those who visit Niagara a few millenniums hence, I leave the verification of this prediction.

Various authorities put the recession at from one inch to one foot a year. "When doctors disagree," etc.

There is some gradual wearing away of the soft limestone, varying with the volume of water, but every spring the frost and elements accomplish a year's work by breaking off some large pieces, tons in weight. Thus the deeper water, swifter current, and greater weight and force of the Horseshoe Fall cut the rock away faster than the shallower waters of the American Fall do. Allen says:

All the phenomena point distinctly to the center of the river as the place of the greatest mechanical energy, and from the center the vigor of the Fall gradually dies away toward the sides. The horseshoe form, the concavity facing downward, is an obvious and necessary consequence of this action. Right along the middle of the river, the apex of the curve pushes its way backward, cutting along the center a deep and comparatively narrow groove, and draining the sides as it passes them.

Prof. James Hall, in his "Geology of the Fourth District of New York State," suggests the possibility of there having been three separate falls, one above the other, when the Falls first began to recede. The face of the gorge from the Falls to Lewiston and

along the ridge, shows us exactly through what kind of rocks the gorge was cut. Professor Hall gives these as the strata of the rocks:

1. Niagara limestone.
2. Soft shale.
3. Compact gray limestone.
4. Shale.
5. Sandstone, constituting, with numbers six, seven, and eight, the Medina group.
6. Shale and marl.
7. Quartz sandstone.
8. Red sandstone.

The deep cut through the solid rock marks the course which the Falls must have taken in their backward movement. It is a wonderful excavation—a chasm dug out by the sheer force of water. Not less astonishing has been the removal of débris. The rock has been thoroughly pulverized, and has been swept out of the river to be distributed in Lake Ontario.

Once it was thought that in the wearing-away process the Falls would ultimately reach Lake Erie, and there degenerate into a series of rapids. But the theory has happily been set aside by one which retains to us the cataract, though the shadow of its present self, and much reduced in size. The latest idea is that the Falls will recede two miles and then remain stationary, their height at that point being eighty feet instead of one hundred and sixty-four, as at present. The supposition is supported by an argument which seems reasonable. The present site is a limestone formation some eighty or ninety feet thick, with a shaly foundation. As the shale is washed away the limestone breaks off and the Falls take a step backward. But the end of the shaly deposit will be reached two miles from the present Falls, and then the rushing water will have more than it can do to wash away the solid precipice over which it will be projected.

In 1841 and 1842 Sir Charles Lyell estimated the gradual recession of Niagara Falls, by the undermining of its brink, at the rate of about one foot per annum. When the Commission having in charge the establishment of the State Reservation—or free park—at the Falls, came to investigate the subject, Lyell's

estimates were found to be erroneous. A map based on surveys of the Falls made in 1883, by Mr. Thomas Evershed, for the New York State Surveyor, shows that in the forty-one years ending in 1883 the annual rate of maximum recession has been six and one-sixth feet. For the eight years ending with 1883 the rate is given as sixteen and one-half feet, so that of late years the rate of recession seems to have been higher than formerly.

No discussion before the session for 1886 of the American Association for the Advancement of Science aroused more general interest than did that relating to the geological history of the Niagara River. Unusual attention was paid to the subject by the geologists present, among whom were some of the best authorities in America on geological questions. Referring to the synoptical reports of the proceedings of the Association, we find several authorities reported in substance as follows:

Prof. W. M. Davis, of Harvard University, thinks the Falls were formerly at Lewiston (seven miles below where they now are), but "of no particular height" until after the subsidence of Lake Ontario.

Prof. T. B. Comstock, of the University of Illinois, believes there was no Fall at Lewiston at any time.

Prof. R. S. Woodward, of Washington, finds from observations recorded from 1842 to 1886 that the minimum rate of retrocession is two and four-tenths feet per year. At this rate it takes the Falls two thousand two hundred years to recede one mile. Professor Woodward is also reported as estimating five feet per year as the rate of retrocession.

Prof. G. K. Gilbert, of Washington, thinks that seven thousand years for the retrocession from Lewiston is a maximum estimate.

Doctor Pohlman, of Buffalo, reduces the time of retrocession to three thousand years.

Now such inconsistency as exists in these conclusions is due to the fact that they are drawn from varying data. Moreover, a radical difference in theory exists as to the course of the prehistoric outlet of Lake Erie.

Hitherto the two great authorities on the retrocession of Niagara Falls have been Sir Charles Lyell and Prof. James Hall. As we have seen, the former held that it was approximately correct

to allow about a foot a year for the retrocession. From the variable nature of the strata over which the river flows, the circumstances that affect the rapidity of the erosion differ all along its course. Eminent geologist that he was, Lyell had not the advantage of a series of actual observations. Previous to the careful trigonometric survey made in 1842 under the direction of Professor Hall, for the New York State Geological Survey, no marks or monuments had been fixed. Professor Hall showed that after a farther recession of about two miles, the Falls will encounter a thick stratum which may permanently resist erosion, with their height reduced to about eighty feet.

There is no disagreement or uncertainty about the future of Niagara. With known conditions science is beautifully accurate. Hence, while the discussion of 1886, summarized in the foregoing, did not give the world an absolute dictum regarding the past of Niagara, it did bear fruit in illustrating the importance of scientific observation and record.

According to the United States Geological Survey reports, the average recession along the whole contour of the Horseshoe Fall has been, since 1842, about two and four-tenths feet per year. In the center of the channel, where the bulk of the water passes, the average yearly recession has been about twice that amount. At the point where the acute angle is formed the recession from 1842 to 1875 was over one hundred feet, and from 1875 to 1886 more than two hundred feet. The recession of the American Fall since 1842 has been slight.

The heights of the Falls above the level of the water in the river was determined by the engineers of the United States Geological Survey in 1886, as follows:

Height of the American Fall.....	167 feet.
Height of the Horseshoe Fall.....	158 feet.

These heights agree closely with those determined in 1842. Hereafter surveys will be made at more frequent and regular intervals.

The amount of water passing over Niagara Falls varies with the height of the river. Prof. W. D. Gunning estimates the average amount at eighteen million cubic feet per minute. Allowing sixty-two and one-half pounds to the cubic foot, this would give

a total of five hundred and sixty-two thousand five hundred tons per minute, or twenty-five million three hundred and twelve thousand five hundred tons in forty-five minutes, of which somewhat more than two-thirds passes over the Horseshoe Falls. Other estimates place the total amount passing over both Falls as high as one hundred million tons per hour. In comparison the flood at Johnstown in 1889 was a gill.

THE FLORA OF THE FALLS.

Much less has been written of the flora of the Falls and vicinity than of its geology; yet to the botanist the region is one of uncommon interest. Not only is the number of species represented on the banks and islands, and in the waters of the Niagara, unusually large, but a considerable number of rare or uncommon plants occur there. Prof. J. Hayes Panton, of the Ontario Agricultural College, reports four hundred and fifty-eight species noted by him in a partial survey of the flora of Victoria Park alone. His report on this work supplements the Commissioners' Report for 1889. The Hon. David F. Day, of Buffalo, enumerates nine hundred and nine species (flowering and fern-like only) observed by him in the Niagara region. [See Fourth Annual Report of State Reservation Commissioners, for 1887.] Both Professor Panton and Mr. Day name numerous species which are of rare occurrence in Western New York and Ontario. Perhaps the most interesting is Kalm's St. John's-wort (*Hypericum Kalmianum*, L.), which bears the name of the famous Swedish botanist who visited the Falls in 1750. It is probable that Kalm first found this plant (which is not known to occur east or south of Niagara), and the blue lobelia which is named for him (*L. Kalmii*, L.), in the vicinity of the Falls. Among the many botanists who visit Niagara, there may be some eager to find Kalm's St. John's-wort. It grows on Goat Island (Day), Cedar Island (Panton), and near the foot of the old Ferry road, Canada side. The only sassafras trees known in the neighborhood of the Falls occur in the Whirlpool woods. The deep gorge between the Whirlpool and Lewiston shelters several of the less common ferns; among others, the walking fern (*Camptosorus rhizophallus*, Link.), *Pellaea*

atropurpurea, Link., and *Phegopteris Dryopteris*, Fée. For other rarities, the botanist is referred to Mr. Day's list in the Report above designated. Of one aspect of the Niagara flora, Mr. Day writes:

Goat Island is very rich in the number of its species. Probably no other tract of land in its vicinity, so restricted in area, can be found exhibiting so large a number. Its vernal beauty is attributable, not merely to its variety of plants, conspicuous in flower, but also to the extraordinary abundance in which they are produced. Yet it seems likely that there was a time, probably not long ago, when other species of plants, of great beauty, were common upon the island, but which are not now to be found there. It is hardly possible that several orchidaceous plants and our three native lilies did not once embellish its woods and grassy places. Within a little while the harebell has gone, and the Grass of Parnassus is fast going. This is undoubtedly due to careless flower-gatherers who have plucked and pulled without stint or reason. . . . The suggestion may be made, that pains be taken to reestablish upon the island the attractive plants which it has lost.

CLIMATOLOGICAL.

Niagara Falls is one of the best places in the world to study the formation of clouds. Especially on still mornings, the rising cloud of spray from the caldron of the Horseshoe may be traced into the upper strata of the air, where it is seen to take on the appearance of ordinary clouds.

The vicinity of the Falls is exceptionally healthful, and the death-rate in neighboring towns is much below the normal.

On the lower part of the river, from Lewiston to Lake Ontario, the spring is usually at least two weeks earlier than it is above the Falls and in the neighborhood of Buffalo.

PISCATORIAL.

There is good fishing in the Niagara, and some of its sections are famous fishing-grounds. From Buffalo to the head of Grand Island, the river is constantly fished in season. Besides lake fish, such as white-fish and herring, good catches are made of bass, pike and pickerel, muskallonge, and now and then a sturgeon. There

are fish in the river between the Falls and the Whirlpool Rapids. The favorite grounds, however, are from Lewiston to the mouth of the river.

In 1887 there was organized, under New York State laws, a "Society for the Protection of Niagara River." It had in view the protection of the fish and the enforcement of the fish and game laws, and also concerned itself with the problems of sewage-draining into the Niagara, the dumping of dredged matter in the channel, and other sources of pollution. Buffalo's sewage, which runs into the Niagara, is a constant theme of complaint at Tonawanda.

HARNESSING NIAGARA.

THE GREAT TUNNEL.

No visit to Niagara is complete without some inspection of the works finished and in process of construction, by which the vast water-power of Niagara is now utilized without injury to the Falls or encroachment on the State Reservation.

The utilization of Niagara River power has been sought since 1825, when Augustus and Peter B. Porter issued a glowing prospectus of the manufacturing possibilities at Niagara Falls, and inviting eastern capitalists and manufacturers to locate there.

No considerable use of the power was made until 1846, when a hydraulic canal was constructed. It is three-quarters of a mile long, running through Niagara Falls (N. Y.) village from near Port Day, on the American shore, above the Falls, to the high bank of the gorge below the Falls. Charles B. Gaskill built the Cataract Mill, the first one established on the Hydraulic Canal, in 1874. Now the bank of the river near the termination of the canal is crowded with manufacturing establishments. Among them, the famous Oneida Community has one of the largest silver-plating works and steel chain manufactories in the United States. Here, too, besides numerous flouring-mills and other large factories, are works of the Brush Electric Light & Power Co., which furnishes light for Niagara Falls and Suspension Bridge villages, American side, and which sends its wires across the river to Niagara Falls, Ontario, and makes a circuit of light for several

miles on both sides of the river. The cliff beneath this group of factories is pierced with a dozen or more canal outlets, flumes, and tail-races, from each of which, at varying height, usually falls a snowy cascade. This group of artificial cataracts is an interesting and picturesque sight.

It was the late Thomas Evershed, of Rochester, who, while Division Engineer of New York State Canals, proposed to utilize the power of Niagara River, practically on the lines which have since been adopted. The Niagara River Hydraulic Tunnel, Power & Sewer Company was incorporated March 31, 1886. July 1, 1886, Mr. Evershed made an elaborate report, estimating the cost of the proposed new tunnel at two million two hundred and fifty thousand dollars. His idea, in brief, was to construct a subterranean tunnel, or tail-race, extending from a point on the river above the Falls to a point near the surface of the water below the Falls. It was to be connected with the river by means of short surface canals, wheel-pits, and cross-tunnels. The power thus secured, ready for turning wheels and shafts, was estimated to be equal to the combined water-power of Lawrence, Lowell, Holyoke, Turner's Falls, Manchester, Bellows Falls, Lewiston, Cohoes, Oswego, Paterson, Augusta (Ga.), Minneapolis, Rochester, and Lockport.

The project stood still for a time, as is often the case with great enterprises. On July 19, 1887, a number of the business men and speculators of Buffalo (but not, as usually stated, the Buffalo Business Men's Association) offered a prize of one hundred thousand dollars "to the inventors of the world, for the best appliance for utilizing the water-power of Niagara River." The amount named was secured—on paper—before the close of the year, and a large number of inventors, a few of them scientists, many of them cranks, came forward with all sorts of schemes and machines. Nobody ever met the requirements, and the prize was never awarded.

In 1890, however, the great work was taken hold of in earnest. On April 1st of that year, a three million five hundred thousand dollar contract was signed between the Niagara Falls Power Company and the Cataract Construction Company. The latter broke ground October 4, 1890, under contract to have one section of the

work ready for use by January 1, 1892. There was a public celebration, and the first earth was thrown up with a silver shovel. The Power Company owns lands for two miles along the shore of the Niagara adjacent to the Hydraulic Tunnel, which have been laid out for lots, streets, mill-races, wharves, and railway sidings, for the purpose of forming a town composed wholly of mills, factories, and workshops. The company has also purchased an adjoining tract of one thousand acres, which has been laid out in streets and lots for homes for workmen employed.

The Niagara Falls Power Company has, from its charter and the amendatory acts, all the powers and grants necessary for taking water from the Niagara River, passing the water through the race-ways and tunnels of the company, and furnishing the power derived from the energy of the water to mills and factories. A subterranean tunnel has been constructed, of horseshoe shape, having a capacity equal to a circle twenty-five feet in diameter, extending through the solid rock to the upper river at a point about one mile above the Falls. From this point the tunnel continues parallel with the shore of the river one and one-half miles, at an average depth of one hundred and sixty feet below ground, and about four hundred feet distant from the navigable waters of the river, with which it is connected by means of surface conduits or canals, through which the water from the river enters and is drawn through the shafts and wheel-pits into the great tunnel below, which forms an immense tail-race for all of the mills, factories, and workshops.

The water falls upon turbine wheels which were put in by the company in a number of the pits, and the power developed thereby is brought to the surface, from which point it is delivered to the mills or factories at that point, or transmitted, by cable, pneumatic tube, or electricity, to adjacent lands, as the customers may desire. Buffalo is already profiting by this electrical transmission. It is fortunate for the manufacturing interests of the country that this great enterprise is in the hands of men who have abundant capital to develop it to the fullest extent. Among the stockholders of the Construction Company are: J. Pierpont Morgan, George S. Bowdoin, and C. H. Coster, of the banking-house of Drexel, Morgan

& Co.; Charles Lanier, Edward D. Adams, and Edward Winslow, of the firm of Winslow, Lanier & Co.; Brown Brothers & Co.; William K. Vanderbilt, D. O. Mills, H. McK. Twombly, Morris K. Jesup, August Belmont & Co., Isaac N. Seligman, Kuhn, Loeb & Co., A. J. Forbes-Leith, Charles F. Clark, Edward A. Wickes, Francis Lynde Stetson, F. W. Whitridge, all of New York City; George M. Porter, of Buffalo, and others. Edward D. Adams is president of the company. The engineers are Albert H. Porter, resident engineer; John Bogart (New York State Engineer) and Coleman Sellers, consulting engineers, and Clemens Herschel, hydraulic engineer.

Niagara Falls is undoubtedly destined to be a great manufacturing as well as distributing point. A pamphlet published by the Business Men's Association of Niagara Falls, at the close of 1890, said:

Hundreds of thousands of tons of freight are brought to Niagara daily to be shipped to all parts of the world. The great cantilever and the railway suspension bridges present daily scenes of constant activity in the departments of the railroad, express, freight, and telegraph interests. There is scarcely a moment all through the day during which cars are not crossing and recrossing the bridges. With the development of the great tunnel, it is safe to predict that every railway of importance in this State will have tracks, yards, and depots at Niagara Falls and vicinity.

Equal advantages are offered for the commerce of the lakes by means of the Niagara River. An appropriation has been made by the United States Government for the further improvement of the Niagara River above the Falls, which will materially hasten the actual existence of the cheapest as well as the most available waterway in the world. Upon the completion of this channel, vessels can come down the Niagara River with their loads of lumber, grain, coal, ore, etc., to be unloaded upon the wharves and docks of mills and factories. They will have a continuous passage from the cities of the West and the great chain of lakes direct to Niagara Falls. Grain will be unloaded at the mills and manufactured in transit. Wheat can be shipped from any field in America without delay of transfers, manufactured into flour and taken directly to its destination. As a railway and shipping point, Niagara Falls is destined to be unexcelled. The value of imports of merchandise into the Niagara District from Quebec, Ontario, Manitoba, and Northwest Territory alone was four million four hundred and fifty-five thousand seven hundred and seventy-two

dollars for the fiscal year ending June 30, 1889. This is the largest valuation, with two exceptions, shown by any of the northern border and lake ports. In the in-transit and trans-shipment trade, where extraordinary dispatch is required, Niagara ranks sixth as compared with the twenty-four principal customs districts. There are but three lake ports that show as large an amount of American and foreign tonnage entered and cleared in 1889 as the Niagara District.

All this seems utterly out of harmony with the effort of the State of New York to restore the vicinity of the Falls to a state of nature. But there is really no conflict of interests. No commercial enterprise will be allowed to encroach upon the public domain; nor is there anything in the present great water-power project which is likely ever to mar the beauty of Niagara or lessen the enjoyment of the visitor there. As for the drain upon the main river by the tunnel, it is not worth considering. The diversion of water by the old Hydraulic Canal, to the amount of six thousand horse power, has not made an appreciable diminution of the torrent that falls over the mighty precipice. The divergence of water to the extent of many hundred thousand horse power would not be noted, as there are fluctuations in the amount of water, caused by the wind setting the water of the lake back or driving more water into the river, amounting to far more than any possible utilization of the water for power can produce.

The Lake Survey Board's measurements of the flow of Niagara River give an average of two hundred and sixty-five thousand cubic feet per second. Should the Cataract Construction Company develop one hundred and twenty thousand horse power, with a head of one hundred and forty feet, they will require about ten thousand two hundred cubic feet per second, using wheels of seventy-five per cent. efficiency; so that less than four-hundredth per cent. of the average flow will be taken; while if the head used be greater, the diversion of water from the Falls will be less than four-hundredths per cent. of the average flow.

THE INTERNATIONAL NIAGARA COMMISSION.

An interesting outgrowth of this tunnel project was the formation, in Europe, of the International Niagara Commission. When Mr. Edward D. Adams, president of the Cataract Construction

Company, visited Europe in the spring of 1890, he found that the most advanced thought on the utilization and transmission of power had not yet found expression in books. In consultation with eminent scientists, practical machinists, and electricians, he perfected the International Niagara Commission. The president of this Commission, Sir William Thomson, familiar with the Falls of Niagara through frequent visits, was probably the first person to suggest the distribution electrically of the water-power at Niagara.

France is represented by Prof. F. Mascart, member of the National Institute, Director of the Central Meteorological Bureau, etc. Another member is M. Theodore Turrettiné, the engineer of the St. Gothard Tunnel, a resident of Geneva, Switzerland, and one of the world's greatest engineers. Prof. Coleman Sellers, of the Stevens Institute of Technology, Hoboken, N. J., and Prof. W. C. Unwin, F. R. S., Professor of Engineering at the Central Institution of the City and Guilds of London, are also associated in this Commission. Thomas A. Edison has made a special report on electrical transmission of power to be taken from this tunnel. Never before was such an array of talent devoted to the utilization of a water-power as is now at work harnessing the Niagara.

A NIAGARA SHIP CANAL.

The project of a ship canal around Niagara Falls is an old one, and has taken many shapes. Perhaps the most recent is that contained in a bill introduced in the Fifty-first Congress (April 14, 1890) by Mr. Payne. It contemplates "a navigable canal for the passage of merchant ships and ships of war," from Lake Erie to Lake Ontario, to be built in Niagara County, N. Y., along one of several routes which have been surveyed. It was to be built by the Federal Government, and maintained as a national water-way, as the Welland Canal is on the Canadian side. Mr. Payne's bill provided for the expenditure of one million dollars on this work. It is unnecessary here to rehearse the commercial and military arguments for such a public work.

Congress has never yet taken hold of the project with enthusiasm, but there is no predicting what may be brought about by altered conditions.

A PROPOSED BOULEVARD.

A favorite project is the construction of a wide macadam boulevard from Buffalo to the Falls. Various bills have been introduced in the New York State Legislature having this end in view, and the undertaking may yet be carried through.

ENGINEERING ACHIEVEMENTS.

THE BRIDGES.

The bridges at Niagara are not the least of its wonders. The latest triumph of engineering skill is the

STEEL ARCHED BRIDGE

of the Grand Trunk Railway, built on the site of the old Railroad Suspension Bridge completed in 1852 and then considered the engineering achievement of the age. The railroad traffic has not been interfered with for a single day during the erecting of the Steel Arched Bridge and the destruction of the old suspension bridge, which took place at the same time. The building of this structure is said to be the greatest engineering feat of the kind in America, and was done by the Pennsylvania Steel Co., at the works in Steelton, Pa., in 1897. The arch has a span of 550 feet, between the end piers, and a truss span, at each end 115 feet long, to connect the arch with the bluff. The total length of the bridge and its approaches is 1,100 feet, and the center of the arch is 226 feet above the water.

THE UPPER SUSPENSION BRIDGE.

Next in order comes the new suspension bridge, below the American Fall. It is a carriage and foot bridge, built by two companies, one Canadian and one American, in 1872. The first ropes were carried over on the ice-bridge. It is said to be the longest suspended bridge-span in the world, the distance from the shore end of one tower to the shore end of the other being one thousand two hundred and sixty-eight feet, or about a quarter of a mile.

The deflection of the cables at center is ninety-one feet in summer, and in winter eighty-eight feet, making a rise and fall of the bridge from changes of temperature of three feet. The length of cables between anchorages is one thousand eight hundred and twenty-eight feet. Fine views can be had from the tops of the towers. Height of the bridge above water, one hundred and ninety feet. It is capable of carrying thirteen times as much as can by any ordinary circumstances be placed upon it. Its towers are one hundred feet high. Charges: Each person, each way, ten cents.

In the great storm of January 10, 1889, this bridge was blown down; but work was immediately begun to replace it, and on May 7th a new structure of iron, hung on steel cables, was opened to the public. During this storm the river reached the highest mark touched in many years, and many thousand tons of rock were carried away from the center of the Horseshoe Fall.

This bridge will be superceded by a

NEW STEEL ARCH BRIDGE

on the same site, and will be finished in 1898. The following are the dimensions:

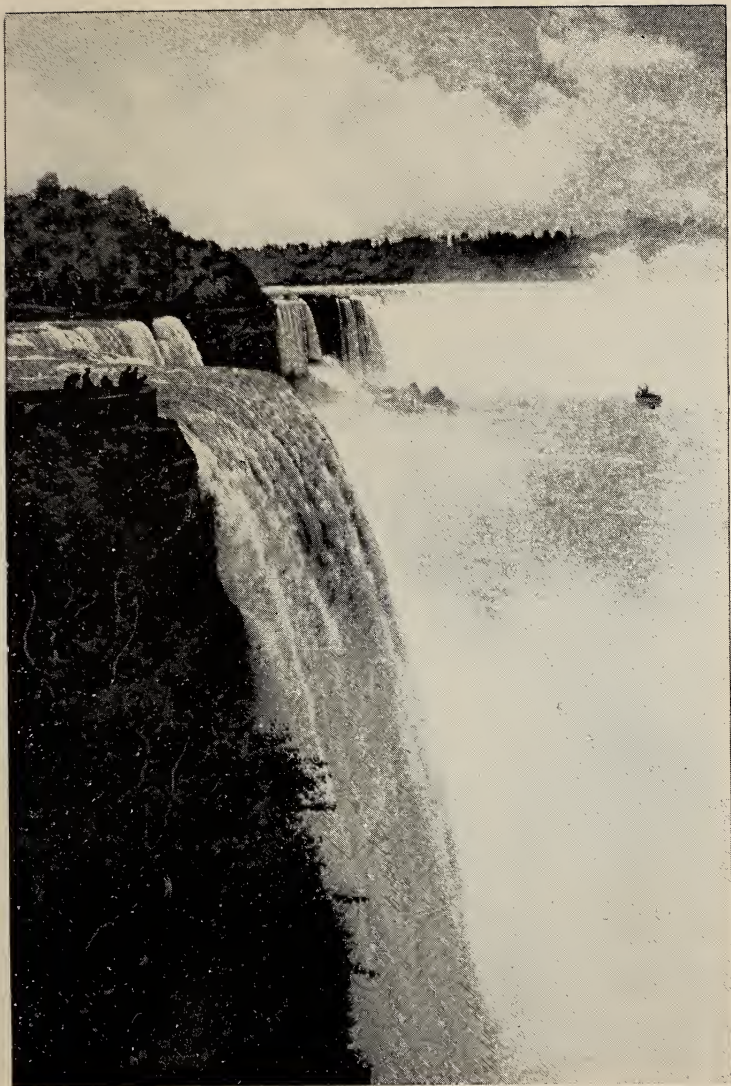
Length of Arch Span.....	840 feet
Total Length of Bridge.....	1,240 "
Width of Bridge.....	46 "
Height above Water.....	191 "

The bridge floor will have double trolley tracks, two eight-foot driveways, and two four-foot three-inch sidewalks. Total weight of bridge, 4,250,000 pounds.

THE CANTILEVER BRIDGE,

Built for the Michigan Central Railway, is a most beautiful, graceful, and stately structure, serving as an enduring monument of engineering skill and marvelous rapidity of construction.

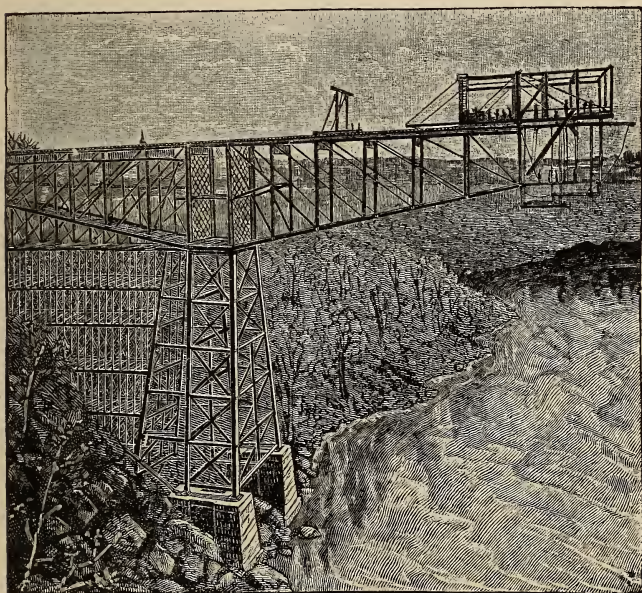
The principle of the cantilever plan is that of a trussed beam supported at or near its center, with the arms extending each way, and one end anchored or counterweighted to provide for unequal loading, as is shown to some extent by the accompanying cut. In practice it is comparatively new, this being the first bridge completed upon this principle. The Firth of Forth Bridge



View of the Falls from Prospect Point.

in Scotland, with a clear span of one thousand six hundred feet, is now built upon this plan, and also in this country the Fraser River Bridge, three hundred and fifteen feet clear span, on the Canadian Pacific.

If any person is desirous of having a practical demonstration of the operation, let him take an old-fashioned pair of steelyards, suspend from the long arm of the lever a light weight of, say, ten



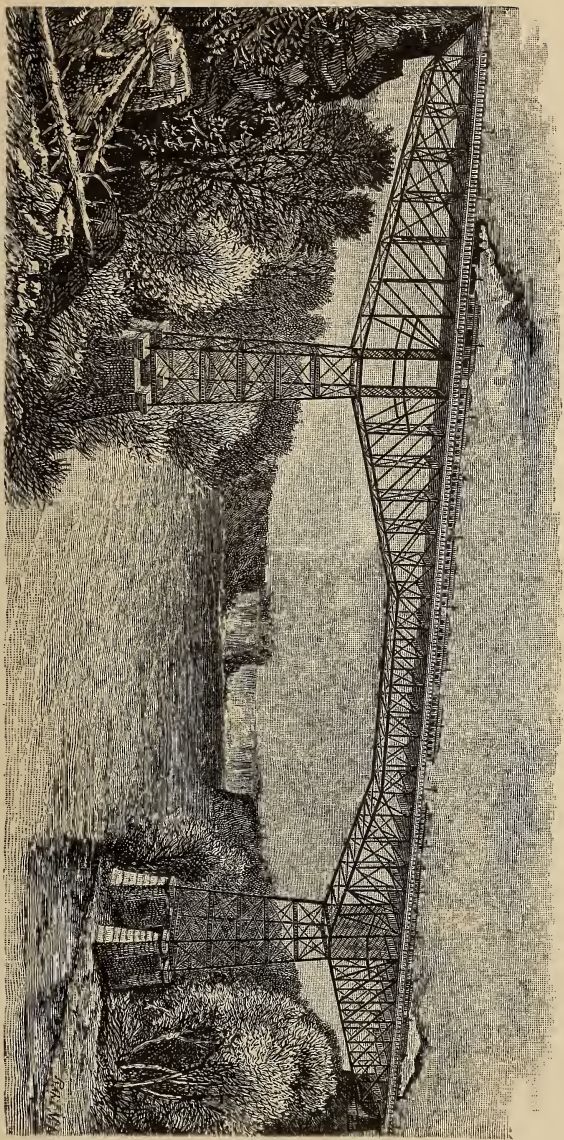
Sectional View of Cantilever Bridge, during Process of Construction.

pounds, and from the other half a ton of beef; the latter represents the shore anchorage of the bridge, and illustrates the power which prevents depression at the end of the long arm.

The total weight of the iron and steel entering into the composition of the massive structure is three thousand tons. The bridge is of sufficient width for a double track, and is built to

carry upon each track at the same time a freight train of the heaviest kind, extending the entire length of the bridge, headed by two "consolidation" engines, and to bear a side pressure of thirty pounds per square foot, which pressure is produced by a wind having a velocity of seventy-five miles per hour. Under these loads the structure is strained to only one-fifth of its ultimate strength. The total length of the bridge proper is nine hundred and nine feet and nine inches, divided into two cantilevers of three hundred and ninety-five feet on the Canadian side, and three hundred and ninety-five feet on the American side, supported on steel towers arising from the water's edge. A fixed span of one hundred and nineteen feet and nine inches is suspended from and connects the river arms of cantilevers. The clear span across the river is four hundred and ninety-four feet and nine inches, being the longest double-track truss span ever yet built.

The bridge spans a chasm of eight hundred and fifty-nine feet from bluff to bluff. The excavations were carried down until solid rock was reached, when blocks of "Beton Coignet," twenty feet wide, forty-five feet long, and ten feet thick, were put in. These form one single mass, capable of withstanding a pressure almost equal to that of the best Quincy granite, and so distribute the load of one thousand six hundred tons that comes upon each pair of steel columns as to produce a pressure of but twenty-five pounds per square inch on the natural formation—much less than a fashionable young lady brings upon the heel of her French boot every time she steps. Upon these Beton blocks, four in number, was built masonry of the most substantial character, carried up fifty feet above the surface of the water. On these foundations the steel towers rest, rising one hundred and thirty feet and five inches above the masonry, and upon these are set steel superstructures. The total weight resting on each of the towers, under a maximum strain, is, in round numbers, three thousand two hundred tons. The total uplifting force that can be exerted on each of the shore anchorages of the cantilever is three hundred and forty tons, and the weight of each shore arm is eight hundred tons. It will be seen that every single piece of material is five times as strong as it actually need be, so that the bridge can be strained to only one-fifth of its ultimate strength. Each ingot of steel was



Cantilever Bridge at Niagara Falls, on the Michigan Central Railway.

submitted to a chemical analysis, and the samples to a mechanical test. The standard of excellence adopted was more severe and exacting than usual, and all steel that failed to meet the requirements was rejected. The contractors therefore say: "This bridge in material and workmanship has no equal."

After its completion, December 20, 1884, the cantilever bridge was subjected to the rigorous practical test of twenty engines and twenty-four heavily loaded gravel cars, so arranged as to bring the severest possible strain upon the central truss span and the river ends of the cantilever arms. The slight deflection of six inches was only temporary, and the great triumph of this wonderful work was assured and proven. There is, probably, not a safer or stronger bridge in the world to-day.

A survey has been made for a bridge to cross the Niagara gorge at the Whirlpool outlet. A new bridge is necessary to give the Canadian Pacific its desired entry to Buffalo, and the Whirlpool route will not unlikely be chosen, though various lines have been surveyed.

The Grand Trunk Railway Company proposes to span the river with a great stone arch, which will be built, according to current report, just north of and near to the railway suspension bridge. It is designed to give the Grand Trunk additional track facilities.

NIAGARA'S FIRST BRIDGE.

Between the Heights of Lewiston and Queenston still hangs the picturesque ruin of the first bridge across Niagara. In 1836 a charter was obtained for the construction of a "chain" bridge at this spot, and a bank was established at Queenston for the purpose of carrying out the scheme. Nothing came of it. On March 20, 1851, the Queenston and Lewiston Suspension Bridge was opened. It was a foot and carriage bridge; the distance between towers was one thousand and forty feet, and when built it was the longest suspension bridge in existence. The deck of the bridge was eight hundred and forty-nine feet long, nineteen feet wide, and sixty-four feet above the river. Capt. E. W. Serrell, an Englishman, was the engineer. It was destroyed by the wind,

April 16, 1864. The rusty cables which still remain suspended across the gorge are occasionally crossed by some daring person.

ANOTHER BRIDGE BETWEEN FALLS AND WHIRLPOOL.

Another bridge is likely to span the gorge before long. The River Bridge Railroad Company has been incorporated to build a connecting line, six thousand feet long, between a point in Suspension Bridge village and the river bank just below the mills at the north end of Niagara Falls village. Here is where a bridge will probably be built for the Canadian Pacific Railroad and connecting lines.

COMEDY AND TRAGEDY.

An entertaining book—a good-sized one, too—might be made out of the adventures and misadventures which have happened at Niagara Falls. There is a great, though by no means complete, list of disasters, running back to the days of the first white visitors. Back of that time we encounter the inevitable “Indian tradition.” A belief existed among the Indians, it is said, that Niagara demands a yearly sacrifice of two human victims. It is more than likely that the Indians never had any such belief, though it might well be warranted by the facts. It is not only a place of resort, but the first place of last resort for desperate and unfortunate people from all over the country. The curious visitor may find an added, if somewhat grewsome, interest in the fact that well-nigh every accessible point of danger has had either its accident or suicide. Careless people have fallen from the cliffs, insane people have jumped from the bridges, fool-hardy people have been drawn over the Falls through venturing too near on the stream above. No earthly precaution on the part of the authorities, short of personal escort, can prevent these casualties. You can not tell when or where the next tragic affair will happen. Perhaps, reader, the polite stranger who has ridden with you in the Reservation van, or who chatted with you at the hotel table, or who even now, at your side, leans over the bridge-rail to watch the swift water, is on the point of—but we forbear; it is not well

to regard those about you as suicidal suspects, unless their conduct is manifestly suspicious.

Neither is it well to yield to the fancy that the water has an awful, tempting attraction. Weak-minded people occasionally give way to these morbid notions; but anyone who can not watch the bright waters, or stroll along the commanding cliffs, without an inclination to tempt Fate, is not in a proper physical or mental condition to travel, or to have commerce with his fellow-men.

Oddly enough, many people who have resolved on suicide go to Niagara only to die by their own hand. A few years ago, a gentleman from a distant city came to Niagara Falls. It was mid-winter and the ice-bridge was formed. He walked out to mid-stream and coolly shot himself with a revolver—a proceeding which manifestly had no connection whatever with Niagara as a place for suicide.

No one has ever passed over the Falls and lived. The bodies of unfortunates who are carried down are usually found, from two days to a fortnight afterward, in the river at Lewiston, oftener than not dismembered and broken.

THE TRUE STORY OF SAM PATCH.

The story of Sam Patch has long been a Niagara classic, but it is not often told either with satisfactory detail or accuracy. The jumping exploits of recent years have revived interest in this pioneer of the profession, so that a few facts regarding his extraordinary career may be welcomed here.

Sam Patch was born in Rhode Island, about 1807. He was successively a sailor, a cotton-spinner, and an athlete. When about twenty years old he jumped from a new bridge at Paterson, N. J., into the Passaic, a distance of about eighty feet. He repeated this jump several times from the bridge and the high cliffs, and became locally famous. He quit work in the mills and went on a grand jumping tour. In sea-port towns he would jump into the sea from mast-heads and yard-arms. In the autumn of 1829 he came to Niagara. He selected a spot on the foot-path under Goat Island, near the Biddle Stair. Here he put up a ladder, the bottom resting on the edge of the river, the top inclining

over it. It was stayed by ropes to the trees on the bank. A small platform was built at the top, ninety-seven feet above the water, which is about fifty feet deep at that place. Patch made two jumps from this staging, and was witnessed by big crowds. How much he got for it is not known, but the hotel-keepers have always been credited with promoting the scheme. From Niagara Sam went to Rochester, and from the edge of the Upper Genesee Falls jumped—into the next world. In a Rochester paper, for some days before his first successful leap, there appeared the following advertisement:

ANOTHER LEAP.


SAM PATCH AGAINST THE WORLD.

"Some things can be done as well as others."

SAM PATCH,

Having returned from jumping over Niagara Falls, has determined to convince the citizens of Rochester that he is the real "Simon Pure" by *jumping off the Falls* in this village, from the rocky point in the middle of the Genesee River into the gulph below, a distance of one hundred feet. This extraordinary feat will be performed on Friday, the 6th of November next, at two o'clock precisely, in the afternoon. Sam assures the world that there can be "no mistake." He "goes the whole hog"—and, unlike too many politicians of the present day, he "turns no somersets" in his progress! He goes as straight as an arrow. He puts off the jump until after election, out of regard to all parties. Let every man do his duty at the polls and Sam will afterward do his at the Falls.

Subscription papers will be left at the different taverns, where gentlemen who feel disposed to witness the spectacle will please subscribe, and pay the money (however small) to the landlord.

 If Sam does not jump, the landlord will return the money to those who gave it—so there is no mistake.

SAMUEL PATCH,

Of Paterson, N. J.

The performance was carried out with perfect success, before nearly eight thousand spectators. On November 12, 1829, the following announcement appeared:

Sam Patch has announced his intention to make a second jump at the Rochester Falls on Friday (to-morrow), at two o'clock P. M. A stage will be erected at the edge of the Fall, making the distance which he is to jump one hundred and twenty-five feet. Sam's bear follows suit by jumping over at three o'clock.

When Sam appeared on the platform above the Genesee chasm that unlucky Friday, he was drunk. In a vain effort to steady

himself, he took a stiff horn of brandy, and then plunged—fell, rather, in a sprawling position—into the water far below. That was the last seen of him alive. His body was found the following spring, in March, 1830, at the mouth of the Genesee River, where it empties into Lake Ontario, near the village of Charlotte. It is buried in a small cemetery between Rochester and Charlotte, in a grave unmarked by slab or shaft. Sam had intended to “crown his career” by jumping from London Bridge, doubtless thinking there would be both fame and “big money” in it. The tale is not complete without a word for his bear. Before making his own tipsy jump, Sam pushed the poor brute off the platform; but Bruin, being perfectly sober, curled himself up like a ball, struck the water with a great splash, and escaped unharmed by his unique experience.

BLONDIN AND OTHER ROPE-WALKERS.

Infinitely greater than Patch was Blondin who died in 1897, at the advanced age of 73, and was a marvel of skill and nerve to the last. Blondin was last in this country in 1888, when he performed at Seabright, N. J., Ontario Beach, near Rochester, and other places. He went to Niagara Falls and looked over the ground of his famous performances. He had grown heavy, but not clumsy. Asked if his increasing weight interfered with rope-walking, he laughed and said: “Oh, no; I walk rope when I get so big I can not walk on the sidewalk.”

Blondin first visited Niagara in the spring of 1859, accompanied by his business manager, Harry Calcourt. When he proposed to stretch a rope across the river from Goat Island to the Canadian shore, the people of the vicinity opposed him, and the newspapers called him a fool. Blondin has lived to a good age as a respectable man, but on general principles (leaving Monsieur Blondin out of the case) the unfavorable verdict would probably be sustained by the majority of people to-day. Although there are a score of occupations which prove more disastrous than rope-walking, the popular idea of rope-walkers no doubt is that they take criminally foolish chances. The rope-walkers themselves manifestly look at it from a different standpoint.

It was late in June of 1859 before Blondin got his wire rope. The Goat Island plan was abandoned, and it was stretched across the chasm from White's old pleasure-ground. Those who saw Blondin traveling back and forth over the rope adjusting the guys made up their minds that he would never fall off unless struck by a cyclone. He was nimble as a cat. His first advertised walk was on Thursday, June 30, 1859. He astonished the crowd by performing many gymnastic feats, and when in the center of the rope lowered a cord to the old steamer *Maid of the Mist*, from which he drew up a bottle and took a drink. He continued giving performances during the season, and in 1860 changed his place of walking to a point just below the railway suspension bridge. Never before, or since, has any attraction drawn such crowds to Niagara—the opening of the State Reservation excepted—as Blondin's rope performances at this time. It was August 17, 1859, when he did the astonishing feat of carrying Harry Calcourt across the rope on his back. The world seemed to be there. The river bank on both sides was black with people, and vehicles and trains of cars were constantly passing. Excursionists were brought from Milwaukee and return for ten dollars, and intermediate points in same proportion. Blondin should have a monument erected at the Falls by the railroads and hotel-keepers for the amount of money he has put into their hands.

On August 24th Blondin walked again, and crossed the rope chained hand and foot. On his return he carried a cook-stove to the middle of the river, made a fire, and turning French cook made an omelette and sent it down to the deck of the steamer *Maid of the Mist* to be eaten. August 30th he walked in the evening. Thursday, September 8th, he crossed with a bushel basket on each foot. By this time the novelty had passed off, and his greatest feat was thought to be in carrying the man across on his back. He made lots of money at Niagara, bought a house on Third Street, in the American village, and lived in good style. In the summer of 1860 he performed before the Prince of Wales, and at the close of the season sold out, and has called London his home most of the time since. He has a son who is not a rope-walker, but has often ridden on his father's back across the aerial

cable. A daughter of Blondin married a brother of Tony Pastor, but is now a widow.

Perhaps the most vivid account of Blondin's greatest feat at Niagara was written by Nicholas A. Woods, correspondent of the *London Times*, who accompanied the Prince of Wales on his American tour. The following extract from this account can not fail to interest all who visit Niagara. The scene of the exploit, it will be remembered, is a few rods below (north of) the railway suspension bridge:

His Royal Highness saw M. Blondin execute his most terrific feat—that of crossing the Rapids on a tight rope with a man on his back. . . . It was stretched between two of the steepest cliffs over the Rapids, about two hundred and thirty feet from where the waters boil and roar and plunge on in massive waves at the rate of some twenty miles an hour. To see him venture out on this thin cord and turn somersaults in the center, standing on his head, or sitting down holding by his hands, revolving backward over the rope like a Catharine-wheel, is bad enough for nervous people; but on this Saturday, after keeping everyone's hair on end thus for twenty minutes, he prepared to carry a man across on his back. The mere physical exertion of carrying anyone nearly a distance of half a mile is no slight feat, but when that space has to be traversed on a half-tight rope higher than the Monument from the sea of boiling rapids underneath, where one false movement, the tremor of a single nerve, a moment's gust of wind, or temporary faintness, would hurry both to an instant and dreadful death, the attempt is so full of sickening terror that not many can bring themselves to witness it, and those who do, remain cold, trembling, and silent till the dreadful venture is safely passed. Blondin took the whole matter coolly enough. His Royal Highness was urgent with him not to attempt it, but he replied that there was far less real danger in the feat than appeared to lookers-on, that he was quite used to it and felt quite at ease, and that as he had everywhere announced his intention of performing it before relinquishing his attempts for the season, he felt bound to go on. He accordingly divested himself of his Indian chief's head-dress and bead-work coat, and put two strong straps crosswise over his broad, muscular shoulders, each strap fitted with a flat, wide iron hook to rest on his hips, for in those his adventurous companion was to place his legs. Mr. Calcourt was the man to be carried; and this person, in addition to his own coolness and confidence in Blondin, had himself a sufficient knowledge of rope-walking to enable him to stand on it alone whenever Blondin himself wanted rest.

The preparations were soon made. Blondin took a very long and rather heavy balance-pole. Calcourt divested himself of his boots, and put on a pair of ordinary slippers, the soles of which were well chalked. Blondin then stood steadily, and Calcourt, grasping him round the neck, gently and slowly hoisted first one leg into the hook and then the other, and allowing his limbs to swing as relaxed as possible, the venture commenced. Of course, with a rope nearly half a mile long, no power could draw it straight across such a gulf. It therefore sloped gradually down at both sides from the edges of the cliffs on which it was secured. This made the attempt look doubly fearful, for it seemed impossible, as Blondin went down the steep incline of cord with slow, cautious, trembling feet, with body carefully thrown back to keep his balance as he almost felt his way, that he could avoid slipping and being dashed to fragments on the rocks far down beneath. At last, however, he passed it, though very slowly, and in about five minutes more gained the center of the rope and stopped, when Calcourt, gently raising his legs from the hooks, slid down and stood upon the cord while Blondin rested. Getting upon his back again was a terrible business. Twice Calcourt missed raising his legs to the hooks, and Blondin oscillated violently under the efforts made on his back. This unintentional awkwardness, which no doubt arose from nervousness, I was afterward informed, led to a fierce altercation between the voyageurs, and Blondin swore if Calcourt was not more careful he would leave him on the rope to get back as he best could. Awed by this threat, Calcourt was more careful, or more fortunate, in his third attempt, and the dreadful walk was resumed. Three more such stoppages for rest were made. During one, when almost in the center of the rope, there was a violent gust of wind which fluttered Calcourt's coat-tails as if it would blow them away, and made both men sway on the little cord till the spectators were almost sick with fear and anxiety. The whole passage occupied about a quarter of an hour. Blondin then performed the still more dangerous task of returning along the rope on stilts about three feet high, and this he did quickly and with apparent ease.

BLONDIN'S IMITATORS AND SUCCESSORS.

Since Blondin's time, several people have crossed the Niagara gorge on a tight rope, but none have approached him in daring exploits. In 1873 Bellini performed on a rope stretched from opposite the Ferry Landing to Prospect Park. Three times, from the middle of the cord, he jumped into the river. He had a rubber cord an inch in diameter and twelve feet long constructed, one end being securely fastened to the rope. Holding the other

end firmly in his descent, the tension served to hold him in an upright position. The third time the cord broke and entangled his feet, so that below water he was tightly bound. He sunk so deep that he nearly suffocated. He was picked up by the boat which was in readiness, but in an exhausted condition.

Lawrence M. Donovan was Sam Patch's greatest emulator. Larry was a New York printer who began a jumping career by minor feats, gradually working up to the achievement of a leap from High Bridge, over the Harlem, to the water, a distance of one hundred and fifteen feet. This he successfully did four times. Then he surprised all New York one morning by jumping from the Brooklyn Bridge, one hundred and thirty-five feet, to the East River. Later, he went to Rochester to jump the Genesee Falls, but the police prevented him. On the morning of November 7, 1886, he appeared at Niagara Falls. He climbed up on the iron railing of the upper suspension bridge, knocked some ice from under his feet to secure firm footing, and at the signal of a pistol-shot sprang into the air. In four seconds he struck the river, two hundred feet below. He was kept under by the current, to come to the surface sixty feet from where he struck the water. The shock broke one of his ribs and made him insensible, but he was rescued and resuscitated. On August 7, 1888, he jumped from Hungerford Bridge, in England, and was drowned. He was then but twenty-six years old.

Stephen Peere, of Suspension Bridge village, some years ago stretched a steel cable across the gorge a few rods north of the railway suspension bridge and made various passages, usually with large audiences. In 1878 he jumped into the river from the bridge. He came to a tragic end by jumping, or falling, over the bank, June 25, 1887. His cable still spans the river, and has tempted several rope-walkers to show their skill.

Shortly after Peere's death, J. E. De Leon advertised that he would walk it. He got out about thirty feet from shore, apparently became frightened, and after a very amateurish performance on suspended rings, slid down a rope into the bushes and quit.

On September 6, 1890, Samuel J. Dixon, a Toronto photographer, crossed the gorge on this same tempting wire, and gave



Below the Canadian Fall.

a very fair equilibrist exhibition This wire cable is three-quarters of an inch thick and nine hundred and twenty-three feet long.

OTHER PERFORMANCES.

Of late years there have been many performances at Niagara of a sensational character. They have ranged all the way from the throwing of a dummy man from the railway suspension bridge—a puerile experiment which for a time made many people who saw it think a man had fallen into the river—to the wild hazard undertaken by Joel R. Robinson in 1861, or the tragic bravery of Captain Webb.

All in all, Joel Robinson is the most interesting figure connected with the history of adventure at Niagara Falls. His trip with the steamer *Maid of the Mist* has been world-famous ever since he achieved it, in 1861. The *Maid* was built to ply, as a predecessor of the same name had done, as a ferry and excursion steamer at the foot of the Falls. The business did not pay, and it was decided to hazard a trip to Lewiston, seven miles, on the wildest river man ever undertook to navigate, for the purpose of selling her. Joel R. Robinson was the pilot, and there was an engineer and assistant. The fearful trip was accomplished, and quickly, too, though with much injury to the boat. It is related of the brave Robinson, who died a few years later, that he came home from the trip looking twenty years older than when he set out. He was a courageous man, the hero of several daring rescues at Niagara, and his name will always have an honored place in the chronicles of the great river.

The Whirlpool is not far behind the Falls themselves in adventurous interest. Indeed, most of the “experiments” of recent years have had this great basin in the gorge for their principal theater. Accounts are preserved, too, of dramatic incidents which occurred there while the whole region was a wild frontier. Away back in 1811, a dare-devil British soldier, who was logging near the Whirlpool, got afloat on a log, and was carried about in the pool for several hours, finally making land in safety.

There is no record of any attempted boat-passage through the Whirlpool before Robinson made it in 1861; nor was there any for several years following. Then an era of Whirlpool-fooling

set in which presumably is not ended, for there's much truth in the saying that "the fools are not all dead yet."

On August 28, 1887, Charles A. Percy, of Suspension Bridge, N. Y., made a successful trip through the Whirlpool Rapids in a life-boat of his own construction. It was seventeen feet long and four feet ten inches wide, and was covered entirely with canvas. It contained two air-chambers, in which the occupant could hide himself, leaving the boat to the mercy of the current. This is what Percy did, on the day named. Securely tucked away in his air-chamber, he drifted down the Whirlpool Rapids and across the Whirlpool, happily avoiding bad eddies, and landed without harm.

The next June (1888), Percy and Robert W. Flack, of Syracuse, signed truly remarkable articles of agreement "for a race through the Whirlpool Rapids in their respective life-boats, for five hundred dollars a side." Flack's boat was fifteen feet long, four feet nine inches wide, and thirty-four inches deep. It had no air-cushions, but much cork was used in its construction. The race was set for August 1, 1888. On July 4th of that year, Flack undertook a trial trip. Securely strapped into his boat, which was the first open craft in which such an attempt was ever made, he started from the old *Maid of the Mist* landing. Thousands of people were on bridges and cliffs to watch the venture. Flack went down-stream gaily enough, for he had great faith in the qualities of his boat, the *Phantom*. Three minutes after it set out the craft capsized, and was carried into the Whirlpool bottom upward. When Percy and others secured it, one hour later, from the Whirlpool eddies, Flack's dead body, a mere bruised mass of flesh, was found still securely strapped to the seat.

Since the cruise of the *Phantom*, no "life-boat" has been tested in the Whirlpool Rapids.

Capt. Matthew Webb, the great English swimmer, undertook to swim down the Whirlpool Rapids and through the Whirlpool, July 24, 1883. How far he went alive is not known. Several places are shown by officious guides where he was last seen alive. His body was recovered four days after, at Lewiston.

August 22, 1886, a Boston policeman named Kendall visited the Falls, and by wearing a life-preserver, actually swam—or was

borne by the current—through the Whirlpool Rapids and across the Whirlpool, where he managed to reach the shore, exhausted. His feat, however, is in no sense comparable to Webb's undertaking, for Webb entered the water wearing only a breech-cloth, and relying solely upon his own extraordinary prowess.

Less daring souls, too, having in view cheap fame and a possible financial return, have "navigated" the Whirlpool snugly hidden in great barrels built for the purpose. The first ingenious gentleman who accomplished the passage, July 11, 1886, was Carlisle D. Graham, a cooper of Philadelphia. August 19, 1886, Graham made another successful trip. Emulating him, came Messrs. Potts and Hazlitt, coopers of Buffalo, who tucked themselves into a barrel together and made the passage August 8, 1886; and finally, Mr. Potts and a relative, Miss Sadie Allen, accomplished it. So far as known, Miss Allen is the only living woman who ever went through the Whirlpool, a unique honor which no doubt she fully enjoys. When it is remembered that these barrels are massive affairs of oak, ballasted and rigged with many small contrivances, and that the current runs at such a rate that the entire passage lasts scarcely more than twenty minutes, the valor of the barrel navigators is seen to be of a rather cheap kind after all.

When one jumps from the brink of the great cataract or either of the three great bridges which span the river in this vicinity, or is drawn into the rapids above the Falls, his body is sometimes lost entirely, and is never seen again; or, if it is recovered at all, it is a long time afterward, and only after it has gone through the Whirlpool Rapids, the Whirlpool, and the rapids at Foster's Flats. It is then generally picked up in the eddies and coves that are made by the river after it debouches from the gorge at Queenston Heights. Here the ferrymen plying between Lewiston and Queenston are ever on the alert for these ghastly human "finds," which, when found, are caught, pulled in shore, and buried until the friends of the deceased come in search of them, or offer rewards for their recovery. At the mouth of one of the little gorges that jut into the river from the Queenston side are three unmarked lonely graves; there still rests at least one of these sombre "finds" awaiting reclamation. Indeed, from

the cataract down to Queenston there is hardly a green spot, a shady nook, a jutting rock, or a dark hollow that has not associated with it the tale of some tragedy that has been enacted within the sound of the noisy, turbulent waters of this river of death.

One of the strangest fatalities of recent years befell L. G. DeWitt, of New York. He visited the Falls February 28, 1886. That most prominent winter feature, the ice-mountain at the foot of the American Fall, was then a prime attraction. Refusing the services of a guide, Mr. DeWitt climbed the ice-mountain alone, rashly ventured across a great crevice, and walked so far out on the hollowed crust of the ice-mound that it gave way and plunged him down over forty feet into an abyss from which there was no escape. He lodged on a narrow shelf of ice part way down the face of the ice-mountain. In front of him was the overwhelming curtain of the American Fall. Soon after he fell, many tons of ice broke from the mound above and buried him from sight. In a few days, however, the body became exposed to view from the cliff above. Such crowds of people hazarded their lives to catch a glimpse of the mangled remains, far below, that Superintendent Welch of the State Park felt it his duty, if possible, to recover the body. After considering and trying various plans, resort was had to tunneling. A tunnel five feet high, four feet in diameter, and about seventy-five feet long was laboriously cut through the mountain. As it approached the side of the mountain next the Falls, the work became hazardous in the extreme. After four days of tunneling the body was recovered.

It is sometimes urged that the reputation of Niagara Falls is damaged by the fool-hardy gentlemen who try to prove that they can do something which wiser men will not attempt. Not so. There might be work for a coroner's jury down at Lewiston every day in the year without detracting from the sublimity of the Niagara. The infinite dignity of nature remains unassailed.

As the foregoing record proves, the mania for the hazardous at Niagara is not of recent origin. As long as there are high falls, swift rivers, high bridges, and deep waters, there will be Blondins to stretch ropes and walk, Sam Patches and Steve Brodies to jump, Grahams and Pottses and Hazlitts to risk all for

nothing. Fate is tempted variously—by some men with skill, by others with sheer fool-hardiness. There is always opportunity for men to stake their little aggregation of animal tissues against the law of gravitation; and gravitation, it is remarked, usually gets the better of the animal tissues, bones, brain, and all, in the long run—or perhaps we should say, in the long drop.

Because a man is willing, however, to try what most people do not dare to try, it is not therefore well to call him a fool. The chances are that he is, but it is pleasanter to “allow” that he isn’t. History may prefer to call him a bold pioneer in something or other. There may be things vastly more foolish than the navigation of the Niagara Whirlpool. No great world’s traffic wants to travel that way, as was the case with the wild rapids of the St. Lawrence. But it is human nature to conquer for the sake of conquering. Science and art both wait for a more intimate acquaintance with the four or five miles of the deep Niagara’s gorge where the passage is angriest. The excursion manager waits, too. It is no more chimerical to admit the possibility of safe navigation of the Niagara from the Falls to Lewiston, than it would have been, years ago, to have predicted the Brooklyn Bridge, the electric light, or any recent human conquest over nature. It is by no means improbable that future editors of this Guide Book will describe the beauties of the route as viewed from electric trains running through the gorge, at the water’s edge, from the Falls to Lewiston and the historic towns at the placid mouth of the river.

NEIGHBORING POINTS.

Niagara Falls are in the center of an interesting territory, and we shall now note all those points within a radius of about twenty miles which have either an historical or a commercial interest.

We shall first take the American bank of the river, from its source to its mouth, and give the names and incidents connected with each place, and we shall then proceed in a like manner with the Canadian side.

AMERICAN SIDE.

Buffalo, at the source of the river, has a population of two hundred and fifty-five thousand five hundred and forty-three. It

is famous as the western terminus of the Erie Canal, and also as the chief Eastern port of lake navigation. It is situated twenty-two miles from the Falls.

Black Rock is a part of Buffalo, where, in 1812, Gen. Alexander Smyth, of Virginia, collected about five thousand men, who responded to his bombastic circular asking all to retrieve the nation's honor and share in the danger and glory of an invasion of Canada. Nothing ever came of the matter; there was no invasion, and the force was disbanded.

During the past decade Buffalo has grown and improved as never before in its history. It is the largest coal-distributing point in the world, its coal receipts in 1890 being six million four hundred and sixty-four thousand three hundred and thirty-eight tons; it is the largest sheep market, the largest fresh fish market, and the second largest wheat and cattle sales market in the world. With her suburb of Tonawanda, ten miles below on the river, Buffalo is the largest lumber market in the world. In 1890 Tonawanda alone received by rail and lake seven hundred and fifty-three million six hundred and seventy-two thousand feet of lumber, and the two ports together one billion forty-three million seven hundred and ninety thousand two hundred feet, an increase of seventy-five per cent. in the decade since 1880. Buffalo has forty-five grain elevators, with a storage capacity for thirteen million eight hundred thousand bushels of grain. It has twenty-five lines of railways, leading in every direction, many being trunk lines; is one of the leading railroad centers of the world, having six hundred and sixty miles of railroad trackage within the city limits, and two hundred and fifty passenger trains daily. Buffalo has sixty-five miles of street railroads and fifty miles additional of cable and electric road projected by newly organized corporations, which have bought franchises from the city guaranteeing the immediate construction of the lines. Buffalo also has a steam belt-line fifteen miles long, encircling the city, with twenty-eight trains daily.

The city covers an area of forty-two square miles, and has outgrown those limits in several places. It has nineteen and one-half miles of water-front which is being extended by a system of ship canals. A fine system of water-works supplies the city with water from the Niagara. Buffalo has more miles of street

asphalt pavement than any other city in the world. One of its chief boasts is its park system, embracing over five hundred acres in three principal parks, connected by eighteen miles of double-road, tree-lined boulevard. Many small parks are scattered throughout the city, and lands were acquired in 1890 for a new large park on the Lake Erie shore, southwest of the city. Buffalo has more than three thousand manufacturing establishments, and is one of the greatest centers in the world for the manufacture of railway cars, flour-mill machinery, agricultural implements, hardware, glucose, soap, starch, malt, and beer; for meat-packing and lard and oil refining; has immense interests in iron and steel; has a large and increasing trade in grain, lumber, coal, and live stock, and is one of the largest flour markets in the world. The amount of capital invested in wholesale and retail business and in manufacturing has doubled since 1880.

Among Buffalo's fine public buildings are its granite City and County Hall, built in 1876; the Board of Trade, Music Hall, and Buffalo Library. Buffalo has one of the most celebrated crematories in the country. It is a very cosmopolitan city, having, besides its predominant American and German elements, about fifty thousand Poles, thirty thousand Italians, and smaller colonies of other nationalities. Buffalo has given two presidents to the United States—Millard Fillmore and Grover Cleveland.

Grand Island, distant three miles at the south end from Buffalo, and three miles at the north end from the Falls, is twelve miles in length and seven in breadth. The land is fertile, and much of it is under cultivation. The island is being developed as a suburban residence district, and has numerous hotels, club-houses, summer residences of Buffalo's wealthy citizens. It was at White Haven, on this island (no town ever existed at the spot thus named), that the late Major Mordecai M. Noah, of New York, designed to build the "City of Ararat" as a place of refuge for the scattered tribes of Israel. In 1825 he even went so far as to prepare for the laying of a corner-stone. The stone, engraved in Hebrew, was got ready, but was never taken to Grand Island. Ceremonies were held, by permission, in the old St. Paul's Church in Buffalo; the stone reposed for years in the rear of the church, and now is preserved by the Buffalo Historical Society.

At the foot of Grand Island lies Buckhorn Island, with an area of about two hundred and fifty acres. Between these two, and about three miles above the Falls, is an arm of the river called Burnt Ship Bay, from a circumstance connected with the War of 1759. The garrison at Schlosser had already made a brave resistance to one attack of the English, and were preparing for another, when, disheartened by the news of the fall of Quebec, they decided to destroy the two armed vessels containing their military stores. Accordingly, they brought them to this bay and burned them. Portions of the vessels are visible under water even at this day.

During the summer several steamers run regularly between Buffalo and points on Grand Island. A most enjoyable excursion, usually made about once a week, is from Buffalo around Grand Island, the steamer passing between Grand and Navy islands. From the foot of these islands the rapids above the Falls and the rising spray are plainly visible.

Navy Island, which is on the Canada side of the boundary, contains three hundred and forty acres. It is owned by a number of gentlemen who use it as a club resort during the hunting and fishing season. It was a headquarters of the "Patriots" during the Patriot War of 1837.

Tonawanda, eleven miles above the Falls, is largely given over to the lumber transfer business, though it has some saw-mills. Including its suburbs of Sawyer Creek, Martinsville, and Gratwick, Tonawanda covers nine square miles and has thirteen thousand inhabitants. Tonawanda Creek is the boundary-line between Tonawanda and North Tonawanda. The Erie Canal passes through the place, and skirts the bank of the Niagara River to Buffalo. At Gratwick are large iron-furnaces.

The village of La Salle, five miles above the Falls, at the mouth of Cayuga Creek, was named after Robert Cavelier de La Salle, who at this point, in 1679, built his vessel, the never-to-be-forgotten *Griffin*.

Just below, on the American shore, two miles above the Falls, is Schlosser Landing, the end of the portage from Lewiston. This terminus was gradually fortified till it became a fort, called Fort de Portage. This was burned by Joncaire on his retreat, in 1759. In 1761 Captain Schlosser, of the British army, rebuilt it stronger

than ever. He named it after himself, and died there. Here, in 1837, the steamer *Caroline* was attacked, set on fire, and sent over the Falls. The Patriot movement being put down in Canada, the leaders established themselves on Navy Island. Visitors thereto being numerous, the *Caroline*, a small steamer, was brought down from Buffalo, as a private venture, it was believed, to serve as a ferry or freight boat. The Canadians, thinking the boat was chartered by the Patriots for offensive operations against Canada, at midnight, December 29, 1837, dispatched a chosen band of men under Captain Drew, in eight boats, to destroy her. As she lay at Schlosser Dock she was boarded by these parties. Those on board—crew as well as some who, unable to get beds in the little hotel, had got berths on board—were attacked. All but one escaped to shore, he being shot dead. The gallant band having thus succeeded in their attack, set the vessel on fire, towed her out into the stream and let her drift. It was a grand sight. A mass of flames, she floated down the river and entered the Rapids; but before she reached the head of the island the water conquered and extinguished the flames. The smoke-stack, it is said, still lies at the bottom of the river, near Schlosser.

The old stone chimney on the river bank, one and one-fourth miles above the Falls, was built in 1750, and was the first stone structure erected in this part of the country. It was the chimney of the barracks of the French fort called "Little Fort," which was burned by Joncaire when compelled to retreat, in 1759. It was rebuilt two years afterward as an adjunct to Fort Schlosser. The chimney now stands in excellent preservation.

Next come the Falls themselves, fully described before.

Three and one-half miles below the Falls, on the American side, is the Devil's Hole, a gloomy and rugged chasm in the bank of the river, between one hundred and two hundred feet deep. Overhanging this dark cavern is a perpendicular precipice, from the top of which falls a small stream, usually dry in summer, named the "Bloody Run," which takes its name from being turned to a bloody stream during the fight described below.

This chasm was cut by this stream continuously flowing into it, aided naturally by the enormous force of the Falls when they were at this point. During the French war in 1765, a detachment

of the British was decoyed into an ambush here by the French and Indians. The war-whoop of the savages was the first indication of danger. Officers, men, women, children, and wagons were pushed over the bank into the chasm below. Two hundred and fifty people were killed. Only two persons escaped—a drummer, who was caught in a branch of a tree in his fall, and John Stedman (the same who put the goats upon Goat Island), who spurred his horse and ran the gauntlet of bullets to a place of safety.

The Tuscarora Indian Reservation is seven miles northeast from the Falls. Driven from their original seats in North Carolina, this tribe came to New York in 1712, and became merged in the Confederacy of the Iroquois. In the Revolutionary War part of them favored the English, and part remained neutral. Those of the Tuscaroras and Oneidas who had been allies of the English left Oneida Lake, came down the Oswego River, and coasted along Lake Ontario to the British garrison at Fort Niagara. In the spring part of them returned, and part of them took possession of a mile square upon the mountain ridge, given them by the Senecas, one tribe of the Six Nations. The Holland Land Company gave them two square miles more, and in 1804 sold them four thousand three hundred and twenty-nine acres, this forming the estate upon which the Tuscaroras are now located. Whoever visits them expecting to see anything barbaric or savage will be disappointed. They are, for the most part, a well-behaved, moderately prosperous farming community, with churches and schools. A few years ago their chief, Mountpleasant, died; but his widow, sometimes called the "Queen of the Tuscaroras," is a very capable and intelligent woman, of great influence in the tribe, and respected by all who know her. The Tuscaroras are far thriftier than their Seneca brothers on the Cattaraugus and Allegany Reservations, in Western New York.

Indians are nowadays seldom seen at Niagara Falls, although Indian bead and basket work, for the most part made on the Tuscarora Reservation, is offered in abundance.

The bluff, or top of the mountain, six miles from the Falls, so geologists tell us, was the shore of Lake Ontario; a fact which seems to be undisputed. Near here are the remains of old Fort Grey. Lewiston, seven miles below the Falls, was named in honor

of Governor Lewis of New York. It is at the foot of the mountain. La Salle built a cabin of palisades here in 1678, and this was the commencement of the portage whose upper terminus was Fort Schlosser, and which passed over nearly the present roads, a part of which is still called the Portage Road. Up the mountain-side here was built the first railroad in the United States. It was built entirely of wood, the rails being broad and flat. The car ran on runners instead of wheels. It was raised and lowered by a windlass, and carried heavy goods up and down. It was a rude work, but answered its purpose perfectly. A horse-car railroad along the mountain-side succeeded the windlass tramway, and preceded by a dozen years the construction of the steam railway at this point.

Fourteen miles from the Falls, at the mouth of the river, stands Fort Niagara, which was established as a trading-post by La Salle in 1678. In 1687 De Nouville built the fort proper for the prosecution of a war on the Iroquois in defense of the Indian allies of the Western country. The next year it was abandoned, but in 1825 was rebuilt in stone, by the consent of the Iroquois. The English General Prideaux was killed here in 1759, and after the battle the French surrendered it to Sir William Johnson. It is now a United States fort, regularly garrisoned. Here is the famous dungeon where, in 1824, Morgan, of anti-Masonic fame, was said to have been confined, and whence, it was claimed, he was taken to be drowned in the lake.

CANADIAN SIDE.

Fort Erie is at the mouth of the river, on Lake Erie, twenty-two miles from the Falls. From the fort, on September 17, 1814, the Americans made the famous sortie, defeating the British besiegers and compelling them to raise the siege. A ferry runs from Buffalo to Fort Erie every half hour during the season. The ruins of the fort, and the grove on the lake shore above, are popular resorts, and are connected by a lake-shore railway with a second ferry, a mile down the river, which runs to the foot of Ferry Street, Buffalo. This historic Canadian shore is Buffalo's Coney Island, but its fine natural attractions are but little developed. A mile farther down is the International Railway Bridge,

used chiefly by the Grand Trunk Railway. Below, a noticeable object on the Canadian shore is a pretty Episcopal church, which is built in part of stones taken from the ruins of Fort Erie.

The village of Chippewa is two miles above the Falls. In the field south of it, on July 5, 1814, was fought the battle of Chippewa, which resulted in a victory for the Americans. In the early days of the century it was much visited by tourists en route to the Falls, and bid fair to become an important town; but now it is utterly dead, visited only by an occasional artist in search of the picturesque, and by fishermen.

Lundy's Lane Battle-ground is one mile west of the Falls. On July 25, 1814, the decisive battle of the war between the United States and England was fought here, the loss on both sides in killed and wounded being eighteen hundred, the Americans being victorious.

The village of Drummondville is about one-half mile west of the Falls, and is so called in honor of General Drummond.

Brock's Monument is on Queenston Heights, six miles below the Falls. It is a handsome shaft, erected to perpetuate the memory of Gen. Isaac Brock, who fell here in 1813. The first monument was built in 1826, and was one hundred and twenty-six feet high. This was destroyed by explosion on the night of April 17, 1838, and was replaced by the present structure in 1853. It is one hundred and eighty-five feet in height, the base being forty feet square and thirty feet high. Four lions, facing the cardinal points of the compass, rest on this as well as on a pedestal sixteen feet square by ten feet high, ornamented in *alto-relievo* by lions' heads alternated by wreaths. The shaft is of freestone, seventy-five feet high by thirty feet in circumference, having a Corinthian capital ten feet in height, carrying in relief a statue of the Goddess of War. Over this is a round dome seven feet in height, surmounted by Brock's statue, which can be reached by two hundred and fifty spiral steps starting from the interior of the base.

A tablet in the wall of the present shaft tells the visitor that "a monument was originally erected on this spot by a grant from the Parliament of this Province, and subsequently destroyed in the year 1838. The present monument was erected chiefly by the voluntary contributions of the Militia and Indian warriors of this

Province, aided by a grant from the Legislature, the authority for the erection of the same being delegated to a committee of fourteen," of which Sir Allan Napier MacNab, Bart., was chairman, William Thomas was the architect, and John Worthington the builder. The former monument stood a few rods to the east of



American Fall and Foot-bridge, from Goat Island.

the present one, close to the steep side of the hill. The view from the monument grounds is of unsurpassed beauty, embracing the garden-like lowlands stretching to Lake Ontario, seven miles to the north. No one who loves nature, or who delights to visit the spots made famous in American history, should fail to spend an hour on Queenston Heights.

The old town of Queenston, named in honor of Queen Charlotte, lies at the foot of the hill. Several of its substantial stone buildings antedate the War of 1812. The spot where General Brock fell, near the base of the descent, is marked by a monument which was erected by the Prince of Wales, and set in place with ceremony on the occasion of the Prince's American tour in 1860.

Between Queenston and Niagara village, the railroad (Niagara branch of the Michigan Central) carries the traveler through the edge of a beautiful piece of woodland overlooking the river, called Paradise Grove.

Niagara, otherwise called Old Niagara, or Niagara-on-the-Lake, rivals Fort Niagara across the river in historic interest. In 1792 it became the residence of the Lieutenant-Governor of Canada, and the first session of the Parliament of the Upper Province was held there. It is on the site of the village of Newark, burned by General McClure in 1813. One of the earliest printing-presses in Upper Canada (now Ontario) was set up here. The visitor should not fail to see its old church, St. Marks, built 1802, and surrounded with a quaint and ancient graveyard. Niagara is one of the most popular resorts on the river, alike for Canadians and residents of the States.

The Toronto steamers, the *Cibola* and *Chicora*, touch at its wharf on their way up to Lewiston. Other steamers run at frequent intervals from Lewiston, connecting with trains and the Toronto boats.

Just above Niagara village is old Fort George, captured by the Americans—General Dearborn commanding—in 1812. It was destroyed by General McClure the next year, and has never been rebuilt.

Fort Mississauga is a prominent object, of no possible use as a means of defense, which stands below the town, near the mouth of the river. A wide common surrounds it, which is occasionally used for militia maneuvers. The annual tour of field duty of Ontario militia, and their summer camp, is usually located above the town, near Paradise Grove.

The Niagara & Queenston Land and Improvement Co., capital stock nine hundred thousand dollars, is a wealthy syndicate, chiefly of Toronto men, which has acquired, by purchase or

option, about fifteen hundred acres of river-front lands near Lewiston, and about as much more on the Canadian side. Among improvements which it contemplates are electric-light plants and electric railways connecting points of interest on the lower river.

THE "CANADIAN CHAUTAUQUA."

On the Lake Ontario shore, near Old Niagara, Ontario, are the pleasant grounds and buildings of the Niagara Assembly, often called the Canadian Chautauqua. The Hotel Chautauqua is a large structure, not yet completed according to original plans, but in use since 1887, which was the first season of the Assembly. From the hotel, thirty miles across Lake Ontario, Toronto is faintly visible in clear weather. On the grounds are numerous cottages, a fine oak grove, through which avenues converge, like the spokes of a wheel, to the Amphitheater. Lansdowne Lake, in the grounds, has its outlet into Ontario. The "season" here consists of schools, popular lectures, etc., after the approved Chautauqua fashion. It is especially popular with Canadians.

Not to be confused with this institution is

WESLEY PARK.

This resort, one of the pleasantest and most popular in the neighborhood, was started with the view to making it a sort of Canadian Chautauqua. It is in charge of a company known as the Wesley Park Association, and comprises pleasant grounds on both sides of the Michigan Central Railway, and reaching to the river, in the southern part of the village of Clifton. An auditorium has been erected, and the grounds have been tastefully laid out. A camp-meeting has been held there every summer since 1886, and every year sees new cottages and other improvements.

The Welland Canal, with its new water-way and grand locks, just finished, runs almost parallel with the Niagara River, eight miles west of it. It was the opening of this canal, with other lesser causes, that diverted traffic from the Lower Niagara, and put its towns into a Rip Van Winkle sleep which is even yet disturbed only by summer tourists and local enterprises for their enjoyment.

SUGGESTIONS TO VISITORS.

These constitute Niagara Falls and their surroundings; and, in conclusion, let us say: If you come to stay only a day, don't think you can see everything named above unless at a large expense. If you come to see Niagara Falls, insist on seeing them first, then select from the outside places any that you desire. If you are going to spend a week here—and certainly to appreciate and understand Niagara one should stay that long—visit daily the two or three principal points, and spend plenty of time at them. Take in one of the other attractions each day. By so doing you will appreciate them all, and will not go away feeling that you have been beaten out of your money, or that Niagara is such a very expensive place.

If, after viewing the real object of interest, the Falls themselves, the visitor chooses to extend his excursions into the surrounding country, he will be amply repaid for his excursions; but he should distinctly understand that these are not the Falls, but the country about the Falls—spots which are pleasant, but not necessary for him who comes simply to view the great wonder of Niagara to visit.

At no place that we know of are such favorable terms given to excursionists, thousands coming annually on excursions, and seeing, we may say, everything for a very small sum.

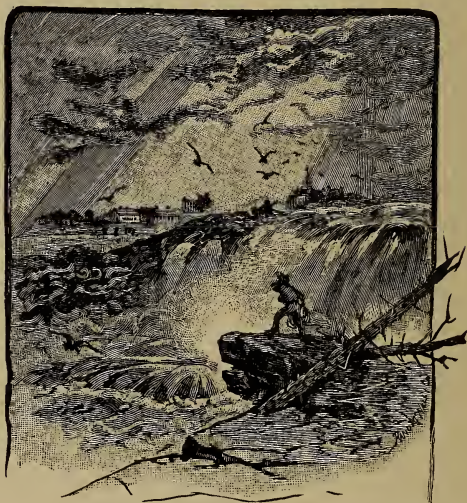
The visitor should remember that in crossing to Canada he passes beyond the jurisdiction of the village trustees, and that if he is wronged by people there, he has, on the American side, no method of redress. He should remember, also, that upon all goods brought into Canada there are large duties.

With these few words, we deem the visitor amply informed. We recommend him to use the same good sense here that he uses at home; to inquire the price of an article before he buys it, and, if too costly, to let it alone, rather than buy it and then go away grumbling; to inquire the price of a carriage before he engages it, and to understand that in no case is the charge more than one dollar and fifty cents per hour. He should expect to pay a fair price for all he receives, not to be continually trying to cheapen

everything; for, as surely as he endeavors to do so, so surely will the advantage be taken of him. Any gentleman or lady who will carefully read and follow the above advice and directions, will never have reason to regret a visit to Niagara Falls.

HINTS FOR SEEING NIAGARA.

The visitor to Niagara Falls should come prepared to remain, for it is not one of those spots which can be "done" in a day; and the mere excursionist, who comes in the "early train" and



The Rapids above Goat Island.

leaves by the "night express," has merely the boast that he has "been to the Falls." If this be the tourist's object, he can accomplish it almost as satisfactorily by going east or west by way of the Falls, getting out during the few moments of the train's stop at Falls View, and then climbing back into the car. One of the chief charms of the magnificent cataract is that it grows upon one, that familiarity does not breed contempt, but that it is more

impressive on the last day of a month's sojourn in its neighborhood than upon the first day. The first sight is usually disappointing, for the spectacle is so sublime and overwhelming that the mind, unable to grasp it, can not adjust itself at once to a scale so stupendous, and the impression fails. But gradually, in the silence of the night, and during the drowsy quiet of the long summer day, the unvarying, ponderous, unspeakably solemn voice of the great flood finds its way into the soul, and holds it with an awful fascination which is all pervasive and can not be shaken off.

And there is another reason why a day is insufficient for seeing Niagara. Between sunrise and sunset one may drive to every spot described in this book, between the Whirlpool and Dufferin Islands, and may do all the things that are usually done by visitors; but the time allotted to each point can not but be inadequate, when each point has sufficient interest to hold one's attention for hours.

It is a good plan for one whose time is limited to take a van in the morning for the tour of the Reservation, descending the Biddle Staircase en route, and on returning to Prospect Park descend to the foot of American Fall, and take the trip in the *Maid of the Mist*, going back to the hotel for luncheon on the return. In the afternoon a carriage may be hired from one of the responsible liverymen for a visit to the Canadian shore, crossing the new suspension bridge and driving through the Queen Victoria Park to Dufferin Islands and back; continuing past the new suspension bridge and the two bridges at Clifton to the Whirlpool and the Whirlpool Rapids, and returning thence via either of the suspension bridges.

Such a trip should consume not more than three hours, the time required depending, of course, upon the time spent at each place of stoppage. The cost would be as follows:

Carriage, two or more persons, three hours.	\$2.50
New Suspension Bridge toll (carriage, one visitor, and the driver)75
Drive through Dufferin Islands (carriage and all its occupants)50
Elevator at Whirlpool Rapids (each person)50
Railway Suspension Bridge toll (carriage, one visitor, and the driver)45
Total	\$4.70

The visitor should remember that he is not compelled anywhere to buy anything unless he wishes to, and he should not allow his driver or anyone else to prevail against his will. It may be well also to note that he will be compelled to declare to the customs officers at each end of the bridges anything dutiable that he carries from one country to the other.

The cost of the morning excursion would be:

Reservation van (each person).....	\$.25
Cave of the Winds, with guide and dress (each person).....	1.00
Inclined railway, Prospect Park (each person).....	.10
Trip on the <i>Maid of the Mist</i> (each person).....	.50
Total.....	<u>\$1.85</u>

A total cost of six dollars and fifty-five cents for seeing about everything that can be seen at Niagara in one day, with the exception of the trip behind the Horseshoe Fall on the Canada side, which can be added for fifty cents.

A USEFUL ITINERARY.

In the following itinerary is presented in outline a method by which two weeks may be profitably spent by the visitor, without once revisiting the same spot, except incidentally:

MONDAY.

Visit Prospect Park and Goat Island, familiarizing yourself with general outline of points of interest.

TUESDAY.

In the morning visit Goat Island, lingering at Luna Island and its stairway.

In the afternoon take a trip down the inclined railway (charge ten cents) at Prospect Park, and upon the steamer *Maid of the Mist* (charge fifty cents, including dress).

WEDNESDAY.

In the morning visit Goat Island, taking a forest walk to the Terrapin Rocks, and *briefly* visiting Three Sisters Islands.

In the afternoon take the forest walk to the Biddle Staircase, and go through the Cave of the Winds.

THURSDAY.

In the morning visit the upper end of Goat Island, taking with you an interesting book or paper, and alternately reading and enjoying the views; return to your hotel for dinner.

In the afternoon visit the new suspension bridge; through Queen Victoria Jubilee Park to Table Rock, stopping at Table Rock Ledge, and thence to the Dufferin Islands, returning to the hotel to supper at six o'clock (expense for carriage and tolls for each person, two dollars and fifty cents up to two persons—less for more than two). The first time you go you may *drive*, after that *walk*.

FRIDAY.

Take a carriage and drive down the bank of the river *on the American side*, taking your lunch, and stopping at Bloody Run; thence to the heights above Lewiston, commanding a most magnificent view of the windings of the river and the lovely valley of the Lower Niagara and of Lake Ontario, returning to the hotel at six o'clock (cost of carriage for one or more, six dollars; no tolls). The same trip may be made more economically via the New York Central Railway in the river-view trains, which are equipped during the summer with handsome observation cars. The cost for the round trip is twenty-five cents.

SATURDAY.

In the morning, having familiarized yourself now with the way, cross the new bridge (cost per person over and return, twenty-five cents), and take one of the vans running through the Park to Table Rock (cost, each person, ten cents), and *walk* thence to the Dufferin Islands, taking your lunch with you and spending the entire day among the islands.

SUNDAY.

Excellent churches, of all the principal denominations, may be found in the village, where visitors are always made welcome.

MONDAY.

Visit the Whirlpool and the Whirlpool Rapids, on the Canada side, taking along your lunch, and passing the morning at the Whirlpool Rapids, and the afternoon at the Whirlpool.

TUESDAY.

Order your lunch put up for you the night before, and taking it with you in the morning, enter the New York Central train for Lewiston, and thence by steamer to Fort Niagara, on Lake Ontario, and return in time for supper. This is one of the most beautiful trips about the Falls, as the railroad runs along the bank of the river, commanding many most beautiful views of the Whirlpool and the Rapids, and the magnificent scenery of the lower river. Expense of round trip, one dollar per person.

WEDNESDAY.

In the morning walk about the State Park, along the bank to the Upper Rapids, lingering on the way to obtain many beautiful views of the river.

In the afternoon drive along the upper river on the American side of La Salle, through a most delightful section of country, and in full view of the river. (Cost of drive, four dollars for carriage for party.)

THURSDAY.

Take a carriage, having your lunch with you, and drive on the Canadian side to the historic battle-field of Queenston and the monument erected to General Brock at Queenston Heights. This is, in its historical features, one of the most interesting trips at the Falls, and the outlook from the Heights is grand. (Carriage for entire day for party of five, seven dollars.)

FRIDAY.

After the long drive of Thursday you will find it most restful to read or sit upon the cool hotel piazzas, or make, possibly, a short visit to Prospect Park, the afternoon being passed in writing to your friends.

SATURDAY.

Take a carriage and your luncheon, and cross the new suspension bridge to visit Lundy's Lane battle-grounds, passing thence to what is unquestionably the most beautiful drive about Niagara—the Canadian river-bank up to the village of Chippewa, and thence to the upper river, commanding a wide prospect of the Islands, and returning thence through the Dufferin Islands. (Expense of carriage per day for party, six dollars.)

These suggestions could be greatly extended by the details of trips upon the upper river, where there is even better fishing than at the Thousand Islands, and, of course, each of the spots above named may be visited more than once; but enough has been said to show that Niagara is fertile in attractions for the "vacation tourist."

It should also be borne in mind that upon the visits to the Whirlpool and the Whirlpool Rapids, Islands, Canadian side, Queen Victoria Park, Dufferin Islands, cheaper means of transportation than carriages is offered by the street railways and vans, which are not so exclusive, but fairly comfortable and less expensive.

We give below the distances from principal hotels to points of interest:

DISTANCES FROM PRINCIPAL HOTELS.

	Canada side.	American side.
Around Goat Island.....	2 miles.	1½ miles.
" Prospect Park.....	1 "	½ "
To New Suspension Bridge.....	½ "	¼ "
" Railway " ".....	2 "	2 "
" Michigan Central Cantilever Bridge.	1¾ "	1¾ "
" Whirlpool Rapids.....	2¼ "	2½ "
" Whirlpool.....	2¾ "	3 "
" Devil's Hole.....	4 "	3½ "
" Top of Mountain.....	7 "	6½ "
" Indian Village (Council House).....	8½ "	8 "
" Table Rock.....	⅛ "	— "
" " " via New Suspension Bridge, or Ferry....	— "	1¼ "
" " " via Railway Suspension Bridge.....	— "	4¾ "
" Burning Spring.....	1½ "	— "
" " " via New Suspension Bridge.....	— "	2½ "
" " " via Railway Suspension Bridge.....	— "	6 "
" Lundy's Lane Battle-ground.....	1½ "	2 "
" Brock's Monument, Queenston Heights.....	7 "	7 "

NIAGARA—CHAINED AND A CAPTIVE.

Glendower's vaunted ability to evoke "spirits from the vasty deep" would find few hesitant Hotspurs in these nineteenth century days.

Niagara, she of the "thundering sound," is to be robbed of an infinitesimal portion of her waters, which, denuded of a mighty, mysterious, and hidden force, and this without diminution of volume, will be returned to her immediately below the Falls, and through Lake Ontario will pass into the majestic, grand St. Lawrence. A by no means exaggerated estimate of the constant force of the water passing over Niagara would place it in the vicinity of 7,000,000 horse-power, i. e., at least double all existing power in use in the entire United States. We find that as early as 1846 the question of employing some part of this vast and vagrant force had been agitated, though the ideas of the promoters of those days were vague to a degree. In a conveyance of land in 1804 an inclusion, prophetic in the extreme, had been made of "a right for canaling for hydraulic purposes."

As to the effect of any hydraulic canal on the flow of water over the Falls, Dr. Sellers, a noted engineering expert, has said:

"The most careful examination goes to show that the amount of water taken by the Niagara Power Company will probably affect the depth of water passing over the Falls about one inch, and no more."

In 1873, Horace H. Day, who had acquired the rights above mentioned, constructed the present hydraulic canal, furnishing some 6,000 horse-power to several adjacent mills in most satisfactory manner. But a greater undertaking had yet to be carried out, and now, being on the eve of completion, is meet to be fully described.

When the State of New York and the Dominion of Canada were engaged in the emancipation of the Falls (as detailed at p. 31, ante), and determined to acquire the property immediately adjacent to the great Falls, converting the banks into a public park, Mr. Thomas Evershed was one of the engineers employed by the commission to make the surveys and advise what was best to be done. For more than forty years he had been a hydraulic engi-

neer in charge of public work in the locality, and entered with enthusiasm upon the work. But he did not lose sight of the fact that much of the power of the Falls could be utilized without in the least affecting their beauty or impressiveness, and as the result certain capitalists secured a special charter from the New York Legislature, and under the provisions of this charter was formed the Niagara Falls Power Company, for whom the Cataract Construction Company is now building the great work which is the subject of this article. The company was given the power to issue stock to the amount of \$10,000,000, and to construct, maintain, and operate tunnels, conduits, and sewers in, through, and under the town of Niagara and the village of Niagara Falls.

The central feature of the work is the great tunnel, 6,700 feet long, now completed, which forms the tail-race, starting from the river at the water level below the Falls, and running under the city of Niagara Falls, at a depth of 200 feet below the surface of the ground. This has somewhat of a horseshoe shape, being nineteen feet wide by twenty feet high inside of the brickwork with which it is to be lined throughout, and having a cross-sectional area of 335 square feet for its entire length.

The work of rock excavation was pushed on three different benches. Three 18 x 30 inch air compressors were employed, working twenty-five Little Giant $3\frac{1}{2}$ drills, rack-a-rock being used in the wet shaft work, and a special tunnel forcite in the remainder. The force employed averaged 750 men, working in two shifts of ten hours each a day.

On the lands of the company at the upper end of the tunnel a main canal, 200 feet wide at its mouth, has been excavated to carry the water from the upper river to the wheel-pits, in which are to be placed turbine wheels to develop the power. On these lands are already arising extensive buildings of a pulp and paper mill, the company's first tenant, using 6,000 horse-power.

All the factory buildings on the company's ground above the head of the tunnel will be more than a mile away from the Falls, so that they will in no way take from the attractiveness of Niagara for visitors.

There is being constructed a central station first for the

generation of about 10,000 horse-power by compressed air; another one of 10,000 horse-power by electricity, with the possible extension of either one of these to the amount of 100,000 horse-power, added in units of 2,500 to 5,000 horse-power to either, one by one, in whichever direction proves the most profitable and is called for by the manufacturers. The matter has been placed in the hands of a board of engineers, of which Dr. Coleman Sellers is chairman; Col. Turrettini, foreign consulting engineer; Prof. George Forbes, of London, electrical consulting engineer; Mr. John Bogart, ex-State Engineer of New York, consulting engineer; Mr. Clemens Herschel, the hydraulic engineer of the company; Mr. Albert H. Porter, resident engineer, and Major George B. Burbank, resident consulting engineer at Niagara Falls.

It is quite likely that the first large contract the company will take for delivery of power at a distance from its central station will be to light the city of Buffalo. This will require 3,000 horse-power. If there be not a very great loss of power in the transmission to Buffalo, it seems very likely that the company will have no difficulty in underbidding any concern now using steam as the motive power for the electric lights, as the loss by transmission is considerably less than 20 per cent. About the use of the water-power of the great Falls in Buffalo within a year or so there can be no doubt. When it shall be brought to New York is another matter, but about that there are not so many elements of improbability as to excite men to scoff; for power has already been transmitted electrically a great distance, and that too with reasonable economy. At the recently-held electrical exposition at Frankfort-on-the-Main, power to operate some of the machinery was transmitted by electricity from Lauffen-on-the-Neckar, a distance of 108 miles. At Lauffen there was a waterfall from which a turbine was operated, and a dynamo on the shaft of the turbine generated the current, which was transmitted to Frankfort over a wire one-sixth of an inch in diameter. It was found here that the loss in transmission was only 25 per cent. Therefore it is likely that the power can be transmitted four times the distance without a loss so great as to make the scheme impracticable. When it does reach the great city, and by the water which leaves

its natural channel for a brief space in the Niagara River, our streets lighted, our factories run, the machine of the seamstress kept in motion, and the very drill the dentist uses to bore our teeth impelled by it, then we shall more than ever feel that around the earth has been placed a girdle, a living belt that throbs and pulsates at the bidding of science, an encircling band rich in the potentialities of mighty but well-regulated movement.

THE INDUSTRIAL INTERESTS OF NIAGARA FALLS.

The possession of the most sublime and awe-inspiring scenery on the American Continent does not necessarily make a Niagara Falls native a dreamer; but, on the contrary, he is generally found to be actuated by a remarkably keen desire to leave some decided and commercial footprints, if not on the "sands of time," still on the more durable and less impressionable rocky walls; those walls which bound that whirling cream of eddy and surge and backwater the deep diapason of whose Horseshoe fall is to be heard for miles.

Probably from the very first discovery of the cataract ingenious minds have been speculating how best to utilize some part of the practically unlimited power without impairing the picturesque value of the scene.

For many years it has been a matter of frequent comment that at Niagara there existed an enormous water-power not utilized. Foreigners visiting the locality expressed their astonishment that a people so inventive and enterprising as the Americans should allow the unlimited power of Niagara to waste itself away without attempting to divert a fraction of the force flowing by their doors to increase the material prosperity of their country.

The feasibility of applying a portion of the power of the cataract to the comforts and necessities of mankind has been discussed for many years by the scientists and manufacturers of America, and several undertakings for the utilization of so much of the water-power as the immediate locality required were carried out by local enterprise; but the limited demand for water-

power in a comparatively new and undeveloped country, and the existence of many small water-powers in the New England States and other sections of the country, permitted this great natural reservoir of power at Niagara to remain practically untouched until the removal of the forests impaired, and in many instances destroyed, the water-powers at other places.

THE OLD MILLS.

The early French explorers and traders, impressed by the magnitude of the water-power at Niagara, built a mill beside the rapids just above the Falls. In Colonial times the British selected a site in the same neighborhood and erected a mill, used for preparing timbers for fortifications along the river. Immediately below were subsequently erected the Stedman and Porter mills, the first structures of the kind on the Western frontier. These were soon followed by the construction of two large raceways, which were used by manufacturing establishments, as was also Bath Island, situated in the rapids above the American Falls.

THE HYDRAULIC CANAL.

The water-power at Niagara was first utilized on a large scale by the construction of the hydraulic canal, about three-quarters of a mile in length, commencing at a point on the shore of the river above the Falls, where the water is deep and navigable, and terminating on the high bank of the gorge below the Falls. The cliff along the bank of the river near the lower termination of the canal is occupied by the large manufacturing establishments.

The Cataract Mill, the first mill established on the hydraulic canal, was erected by Charles B. Gaskill in 1874. The capacity of the mill has been largely increased. It now turns out 700 barrels of flour per day. The canal became the property of Jacob F. Schoellkopf, to whose enterprise and foresight the development of Niagara Falls as a manufacturing center is largely due.

The erection of the flouring mill of Schoellkopf & Matthews was commenced in 1877. It started with twenty-two run of stone, and, by reason of the power and shipping facilities, became so successful that it was necessary to increase the capacity. In 1881 it was remodeled, the stone replaced by rollers, and the product increased to 2,000 barrels per day.

When the Niagara Falls Hydraulic Power & Manufacturing Company became the owners of the hydraulic canal, other manufacturing industries increased. The Niagara Wood Paper Company erected a mill for the manufacture of wood pulp. Owing to the abundant and steady power, the place proved to be particularly well adapted to that industry, and a second mill was soon after erected by John F. Quigley. A third mill, now the property of the Cataract Manufacturing Company, was subsequently established. All of the pulp mills have since erected additions fully as large as the first structures. The Niagara Wood Paper Company and the Cliff Paper Company have added machinery for the manufacture of paper.

When the mill of the Niagara Falls Paper Manufacturing Company was appropriated by the State of New York at the establishment of the State Reservation at Niagara, in the year 1885, the Pettebone Paper Company erected a larger and better mill, in the milling district. In 1889 an addition to the establishment was built and the capacity of the mill doubled.

The Oncida Community (limited) of Niagara Falls has established one of the largest silver-plating works in the United States, and has also added an extensive steel chain manufactory to the establishment. The capacity of the works has been doubled since their establishment.

Carter & Company (limited), manufacturers of counter check-books, located at Niagara Falls when the goods were first introduced. The establishment has been enlarged several times, and a new building is now being erected to meet the increased demand.

A third flouring mill, "The Central," has been established, with a capacity of 2,000 barrels per day. Schoellkopf & Matthews' Niagara Flouring Mill and the Central Flouring Mill, standing side by side at Niagara Falls, are the largest flouring mills east of Minneapolis, and are almost continually run to their full capacity.

The establishment of the flouring mills necessitated the building of large cooper shops. All the barrels used by the mills are manufactured in the mill district. This branch of industry gives employment to a large number of men.

The business of the Brush Electric Light & Power Company, organized in 1881, has continually increased.

The Niagara Falls Brewing Company's establishment is one of the most successful and prosperous concerns of the kind in the country. Since the erection of the buildings, additions have been made sufficient to double its capacity.

The building of so many mills led to the erection of Philpott & Leuppie's machine shop, an extensive establishment located in the heart of the mill district.

Every branch of business established during the past fifteen years has been obliged by increased demand to double its capacity.

A summary of the yearly transactions of some of the various branches of industry will illustrate the importance of Niagara Falls as a manufacturing center.

The flouring mills manufacture annually 942,000 barrels of flour, value \$4,710,000; employ 110 men, and pay out for wages \$66,000. The paper and pulp mills turn out 9,156 tons, value \$527,520; employ 126 persons, and pay out for wages \$64,680. The cooper shops employ 130 men, manufacture 603,600 barrels, value \$211,260, and pay out for wages \$64,800. The Oneida Community (limited) employs 220 persons, and pays out for wages \$60,000; value of product, \$200,000. Carter & Company (limited) employ 161 persons, pay out in wages \$49,400; value of product, \$350,000. The Niagara Falls Brewing Company employs 40 men, and pays out in wages \$28,000; manufactures 40,000 barrels, value \$280,000. Philpott & Leuppie employ 16 men, and pay \$9,600 for wages.

These establishments are among the most prosperous in the country, a fact largely due to the great superiority of the power and the unexcelled shipping facilities at their command.

The railroad companies have been watchful of the rapid growth of the manufacturing interests, and railroad sidings have been laid to every mill door. Twenty-seven thousand cars of mill freight are now handled every year.

The chain of the Great Lakes, the inexhaustible source of the power, is unaffected by floods or droughts, the surface height of the Niagara River is practically the same at all times, and the lake water which constitutes the stream is of the purest quality. There is nothing to interrupt the steady flow of the products of these establishments, and being located as they are upon the

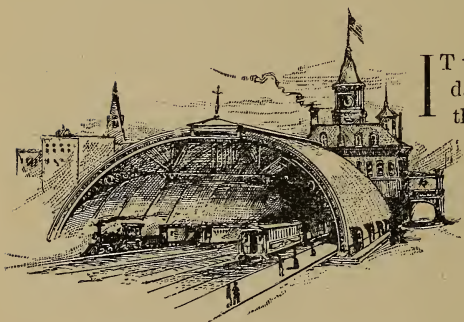
great highway of commerce between the East and West, where the trunk lines of railway concentrate at the international railway bridges, connecting the United States and Canada, the means of obtaining the raw material, and the facilities for bringing the products of the manufacturing establishments to the consumer, are unexcelled.

THE GREAT GORGE ROUTE,

on the American side, runs from Niagara Falls to Lewiston, connecting with all railroads and steamboat lines from the East and West, from Buffalo and Toronto.

This line is a marvel of skill and ingenuity in electric railroad building. Its cars start from the great Observation Tower, opposite Prospect Park, and carry passengers down a gentle grade on the side of the rocky gorge, reaching the main grade only twenty feet above the water, near the great railroad bridges. It passes along the wonderful Whirlpool Rapids, where they can be seen completely from end to end. The Great Whirlpool is skirted and seen from the most appreciated point, the water level. The lower rapids, the longest, most beautiful, and the least seen in the past, are shown in all their glory. The great mystic cavern, The Devil's Hole, the caves along the route, the old forts, battle grounds, and the ruins of the first Suspension Bridge over Niagara Gorge, the first built in America, are among the interesting points passed, while magnificent views of Queenston Heights and Brock's monument are obtained, the scene of the great battle of the War of 1812, the romantic scenery passing like a panorama before one's gaze, ending up at the historic old village of Lewiston, where direct connection is made with the steamers for Toronto and all parts of Canada.

THE CITY OF BUFFALO.



IT was on the seventh day of August, 1679, that Father Hennepin, the celebrated Franciscan missionary, set foot on the shore of Lake Erie, near the spot where is now the flourishing city

of Buffalo. With his company of thirty-four men, he had come down from Squaw Island, where his little exploring vessel, the *Griffin*, had been built by La Salle. After celebrating mass, and amid the pious intonations of the sailors, the worthy father had proceeded on his voyage of exploration and proselytizing. Thus the future city received its baptism at the hands of those remarkable men, the early French missionaries, who possessed, in large degree, the qualities of adventurer, explorer, and churchman. In 1687, Baron La Hontan followed, and in his celebrated expedition through this region his trained military eye saw the advantages which the site possessed for a stronghold, and in his journal we find the spot marked upon his map as "Fort Suppose;" but the bold baron's supposition was not realized until a much later date. The surrounding region was dominated by the Senecas, that courageous and warlike tribe, who kept in check their less numerous and less belligerent neighbors of the Five Nations.

Slowly and by degrees a few white men found their way to Buffalo Creek in search of peltries, and the "Old French War" gradually reduced in numbers the powerful confederation of the Five Nations. The devastating expedition of General Sullivan during the Revolutionary War almost exterminated the once-powerful tribes, and the long and severe winter of 1779-80 completed that work. A remnant of the Senecas and other tribes sought the shelter of Fort Niagara, carrying with them several white captives, men, women, and children, whom they compelled to work in the fields, and who appear to have been the first white inhabitants of that neighborhood, if we can except the British garrison at Fort Niagara. The captives could hardly be called settlers, as they were not by any means attracted to the spot by their own free will, and escaped whenever opportunity offered. Soon after the events just related, however, the first genuine white settlers built their cabins on Buffalo Creek. To William Johnston, son of Sir William Johnston, and his Indian wife, Molly Brant, a sister of the famous chieftain, Joseph Brant, belongs the honor of first holding in possession the ground at the mouth of Buffalo Creek, which, in the year 1781, by reason of his influence and address, he obtained from the Indians, over whom he wielded great influence. Now gathered a heterogeneous crowd of white adventurers, traders, and hunters, out of which unpromising material was hatched the village of Buffalo.

CONFLICTING TITLES TO THE SITE.

The importance of the value of the country forming Western New York after the Revolutionary War is best seen in the scramble for possession between the Indians, or the Six Nations, on one hand, and the General Government, the States of New York and Massachusetts on the other, not to speak of the numerous private interests seeking control. Treaty after treaty, concession after concession, were made, until finally, in 1797, the lands passed into the hands of the Holland Land Company. They consisted of four tracts, described in as many deeds. The Indian title to these lands was finally extinguished, in that year, at a council at Geneseo, and the ownership of the site of Buffalo passed practically to Holland. With a resident agency at Batavia, N. Y., the

Holland Land Company proceeded, by circulars and otherwise, to people their tracts. Joseph Ellicott was the first agent, and for his labors in opening up for settlement and occupancy the land now forming the city of Buffalo, he has been called the "Romulus of Buffalo." In 1795, the first tavern, that beacon of cities, was established by John Palmer. It was a two-story log house on the terrace nearly opposite Exchange Street, and a few rods west of Main. Its first distinguished guest was the Duc de Rochefoucauld Liancourt, then on his travels, who records that he "ate a very indifferent supper," and was obliged to sleep on the floor; but, having evidently become used to hard fare and scant accommodations, he naively adds, "we slept as soundly as we had done in the woods."

Among the first to seek residence in Buffalo after Ellicott's survey was Dr. Cyrenius Chapin, an able young physician, who visited the village in 1801, and made it his home for life in 1805. He was held in high esteem by his fellow-citizens, who in 1836 presented him with a silver service as a testimonial of their appreciation for his endeavors, both in peace and war.

GROWTH OF THE VILLAGE.

Almost imperceptibly but steadily the town began to enlarge. The Land Company disposed rapidly of their lots at prices ranging from \$120 to \$400 each. At this time land beyond Chippewa Street, on Main, was selling for \$11 and \$12 per acre. The first death in the young community occurred in 1804, when John Cochrane, a migratory Yankee from the land of steady habits, departed this life, and was buried in the little cemetery, laid out by William Johnston, on land belonging to him, now covered by the building known as the Washington Block.

In 1807, William Johnston, so long identified with the settlement, died, at the ripe age of sixty-five, and was buried in the cemetery which he himself had provided. He left a son, John, a young man educated at Yale, and of exemplary conduct. About this time the first religious society was formed, under the ministration of Rev. Thaddeus Osgood, assisted by Deacon Calender, who officiated, in the absence of a clergyman.

In 1808, the County of Niagara was erected, embracing all

the territory of the present counties of Erie and Niagara, Buffalo being made the county seat. This assured permanent prestige to the little town, and gave it immeasurable prominence over its lusty though ephemeral rival opposite Squaw Island. The first court was holden in Joseph Landon's tavern—now the Mansion House. Augustus Porter, one of Ellicott's lieutenants, was made judge, his associates being Samuel Tupper, Erastus Granger, James Brooks, and Zattu Cushing, with Asa Ransom, sheriff, and Louis Le Couteulx, clerk. The attorneys in Niagara (Erie) County at that time were Ebenezer Walden, Jonas Harrison, Truman Smith, John Root, Heman B. Potter, Alvin Sharpe, Bates Cook, and Philo Andrus. The first court-house and jail stood on Washington Street, the former facing Lafayette Square, and the latter near Clinton Street. The jail was surrounded by a wooden stockade, fourteen to sixteen feet high, like a frontier fort.

In 1805, Erastus Granger was appointed collector for the "District of Buffalo Creek." Prior to this time this territory was in the District of Presque Isle, Detroit, of which General William Irvine was collector.

The first newspaper in Buffalo, the *Buffalo Gazette*, was issued on the third day of October, 1811, by the brothers Smith H. and Hezekiah A. Salisbury. Established just before the War of 1812, its columns furnished not only a true relation but a historical guide to the campaign on the lakes and our northern border during that stirring period.

Among the early merchants and traders who made their headquarters at Buffalo were Messrs. Juba Storrs and Benjamin Caryl. Originally educated for the bar, Mr. Storrs soon forsook the legal profession, and in 1809 established himself in business at Buffalo, with Mr. Caryl as partner. The firm was prosperous, and had branches at outlying towns in New York, Pennsylvania, and Canada.

Thus the settlement from small and humble beginnings took on the appearance of a town, with all the resources and conveniences of urban life at that period. Mention may here be made of the Old Ferry at Black Rock, which for years was the only landing-place or wharf. The rock was at the foot of what since has been called Fort Street, and was about one hundred feet broad

at its northern end, and ran southeasterly in toward the bank for a distance of three hundred feet. It was about four or five feet high, and was regarded as the safest and best landing-place above the Falls. To the Indians, the Land Company conceded the perpetual right of fishing at this place, but the blowing up of the rock by DeWitt Clinton's engineers, in 1825, caused this privilege to fall into desuetude.

BUFFALO IN 1812.

By some, the War of 1812 is regarded as a war of small consequence, but students of history, and thinkers, recognize the fact that it forever settled the question of British domination over what is now our northern border. From revolutionary times, the frontier question had been an unsettled and aggravating one, but at the conclusion of the war this vexed question was set led at once and for all time. 't is not necessary here to relate the causes of the war, but to record the share—a most important one—which Buffalo bore in this memorable event. Hostilities between Great Britain and the United States were declared by Congress on the 18th of June, 1812, a day after the obnoxious "Orders in Council," one of the principal causes of the war, had been withdrawn by the British Parliament. Had the science of electricity progressed as far at that period as it did years later, the war might have been averted, and thousands of lives and millions of dollars been saved to both sides. As early as May of 1812, recruiting had been actively carried on in Buffalo by a United States army officer. He promised to those who would sign for five years, one hundred and sixty acres of land, three months' extra pay, and a bounty of sixteen dollars. A number of persons responded, but a great deal of their martial fervor oozed away before a shot was fired. The first marine capture on the lakes was made by a party of British soldiers, who moved across from Fort Erie in two boats on June 27, 1812, and seized the salt schooner *Connecticut*, which lay at anchor off Buffalo. On June 29th, Hon. Erastus Granger, the Indian Agent, held a council with the chief men of the Six Nations, and was assured by them of their friendliness to the American cause. Gen.





City and County Hall, Buffalo.

William Wadsworth was the first commander of the forces on the frontier, but was quickly superseded by Gen. Amos Hull, of Ontario County, who in turn was followed by Maj.-Gen. Stephen Van Rensselaer, under whose energetic command immediate steps were taken to fortify the town. An inspection of his forces and supplies revealed anything but a satisfactory state of affairs, but, nothing daunted, General Van Rensselaer set about to strengthen his line, which was thirty six miles long, but occupying an admirable natural position for defense. The Indians, aroused by the rumor that Grand I-land was invaded, declared war against Canada, in the only document of the kind ever issued by North American Indians, so far as researches and information go. The news of General Hull's surrender at Detroit reached Buffalo on July 17th, and filled the little camp with apprehension but not dismay, as a feeling of indignation arose among the soldiers at the man who had disgraced his country, and laid down his arms without firing a shot. This feeling to retrieve the dishonor only multiplied Van Rensselaer's difficulties, as he did not feel that his force was strong enough to invade Canada and strike Brock's army, as it would leave Buffalo exposed to the victorious and elated British troops at Detroit. Pursuing a Fabian policy, he waited until autumn, when reinforcements reached him to the number of several thousand men, consisting mainly of Pennsylvanians. The first real action took place on August 9th, when a gallant and successful attempt was made to cut out the British brig *Adams*, and the Northwestern Company's schooner *Caledonia*, which lay under the protection of the guns of Fort Erie.

The idea was suggested by the old Seneca chief, Farmer's Brother, and, under the command of Lieut. Jesse D. Elliott, of the United States Navy, who had about one hundred men under him, the attempt was made at night, the expedition being in three boats, and was a complete surprise to the non-vigilant Britishers on board the vessels, who found themselves prisoners to the Americans, on being rudely awakened from their slumbers. Lieutenant Elliott was afterward in command of the *Niagara* in Perry's immortal victory on Lake Erie, and succeeded that illustrious sailor in the command of the lake squadron. The British retaliated by bombarding Black Rock.

Although on September 1st General Van Rensselaer had only six hundred and ninety-one men fit for duty, by October 12th his force numbered five thousand two hundred and six. To the officially unexpressed, yet directly intimated, wishes of high authorities, he at last decided to make a descent on Canada. The time seemed propitious, and Queenstown was the objective point to land his forces. The passage across the river was delayed through various blunders of his subordinates, but finally, on the night of October 13-14, he crossed with a small force, and reached the opposite bank through the midst of the heavy fire of the enemy, who had discovered his approach. A determined stand was made by General Brock, in command of the British forces at Queenstown, but the Americans, smarting under the defeat at Detroit, carried the heights at all points, and the officers were congratulating themselves on the auspicious result, when, to their great astonishment, they found their men in a state of dire demoralization, caused by the sight of advancing British regulars. All attempt to rally them proving futile, a retreat was ordered, which culminated in a general *saute qui peut*. Only a small number of the invaders succeeded in regaining the American shore, the rest being killed or captured. The disaster at Queenstown led to the removal of General Van Rensselaer, who was superseded by Gen. Alexander Smyth, United States Army, who had, a short time before, been sent to assist Van Rensselaer, but who had remained inactive at Buffalo, with a force of thirteen hundred regulars. Upon assuming command, General Smyth issued a bumptious proclamation, calling upon volunteers to join his army and conquer Canada. After two unsuccessful attempts to invade Canada, caused by his lack of military prevision, the idea was given up, and the forces dispersed to their homes. For this failure General Smyth was lampooned from one end of the country to the other, and his proclamations parodied in prose and verse. He was legislated out of the army, and afterward represented his district in Congress, where he became celebrated by reason of his long-winded speeches. Upon one occasion, when, as usual, the majority of the members had left the hall, while delivering a speech, he exclaimed: "Gentlemen can retire if they

please; I do not wish them to hear me unless they choose; I do not speak to the members on the floor merely, but to posterity." Upon which an old member, sitting resignedly in his seat, replied: "Go on, sir; go on. Your audience will be here before you get through."

In 1813 occurred the glorious victories of Perry on Lake Erie, and the battles of Lundy's Lane and Chippewa. Out of reprisal for the burning of Newark, in Canada, by Colonel McClure, a large force of British and Indian allies landed at Black Rock and sacked the town. With the battle of New Orleans, on January 8, 1814, the war ended.

BUFFALO REDIVIVUS.

During 1814, despite the war, the citizens of Buffalo had gradually returned, and the work of rebuilding the sacked town was actively carried on. A brick-yard was started, and more substantial structures were erected. In 1816 the town had two newspapers, several churches, and a bank, but was not yet out of the woods; for in that year the Town Council offered a reward of five dollars for the scalp of each wolf caught in the town.

The great event of 1818 was the launch of the *Walk-in-the-Water*, the first steamer to ply the lakes. She was built at Black Rock, in spite of the jealousy of Buffalo, and, on May 28th, glided off the ways amid great rejoicing. She plied between Buffalo and Detroit until 1821, when she was wrecked near the light-house. Erie County was separated from Niagara in April, 1821, in which year a theater was established in Buffalo. About this time a humble young pedagogue was teaching the young idea how to shoot at Cold Spring. He subsequently rose to a higher, if not nobler, sphere. His name was Millard Fillmore, the thirtieth President of the United States.

On August 9, 1823, ground was broken for the commencement of the Erie Canal, near the Commercial Street Bridge, amid loud acclamations, the blare of music, and the salute of cannon. The chief citizens shoveled, a procession followed the contractor's plows, and refreshments were partaken of. The year 1825 was an eventful year for the future great city on Lake Erie. The popula-

tion in January of that year numbered 2,412. There were four newspapers, and the village boasted nearly five hundred buildings. Still, all east of Washington Street was an almost inaccessible morass, while west of Franklin Street and north of Chippewa the forest primeval remained. Marquis de Lafayette visited the town on June 4th, it being specially decorated and illuminated for the occasion. An address of welcome, parades, and a reception formed the main features of his stay. Red Jacket, the brave and faithful ally of the Americans, was present, a committee having kept him free from intoxicants during the Marquis' presence in the town. A unique event was the purchase of seventeen thousand acres of land on Grand Island by Major Mordecai Noah, of New York, a celebrated journalist of that day. His purpose was to afford the Jews of Christendom a refuge. He announced himself as Judge of Israel, and, on September 2d, a corner-stone was laid with imposing religious ceremonies and addresses. The scheme, however, came to naught.

The completion of the Erie Canal marked the beginning of Buffalo's present prosperity.

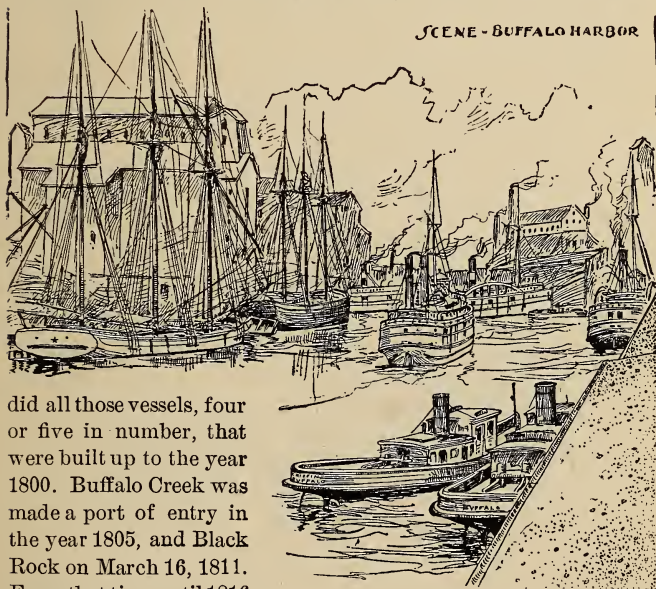
ONWARD STRIDES.

With other cities in the State of New York, Buffalo shared the excitement of the anti-Masonic period, a time when men's passions ran high and turbulence reigned. The cholera scourge visited the devoted city in 1832, and again in 1834, and made sad inroads on the population. In 1837, the year of the great panic, which was so dire and widespread in its influence, Buffalo suffered severely, aided by local influences, and the recovery from the crash was slow. Yet by 1842 the city became the terminus of the Buffalo & Attica Railroad. Nearly thirty thousand people were found in Buffalo in the census of 1845. In 1847, the Roman Catholic diocese of Buffalo was established by Pius IX. Dr. John Simon, the first Catholic bishop, was received upon his arrival by ten thousand people on the night of October 17th. On August 9, 1848, a great national convention, presided over by Charles Francis Adams, nominated Martin Van Buren for the Presidency. This was the first and only national convention ever held in Buffalo. In 1850 the population had reached the respect-

able figure of forty-two thousand two hundred and sixty-six. Through the dark days of the Civil War, Buffalo maintained a gratifying prominence in furnishing a large quota of her sons for service in the field. As a home for Presidents of the United States Buffalo has the distinguished honor of sheltering more than any other city inside her gates—Millard Fillmore and Grover Cleveland. Last, but by no means least, Buffalo is noted for the beauty of its fair daughters, as a walk through the shopping district on any fine day will amply demonstrate.

COMMERCE OF BUFFALO.

The first vessel that sailed Lake Erie under the American flag was the sloop *Detroit*, belonging to the Government, as indeed



did all those vessels, four or five in number, that were built up to the year 1800. Buffalo Creek was made a port of entry in the year 1805, and Black Rock on March 16, 1811. From that time until 1816

most of the lake vessels landed there, all of them being sloops, schooners, and open boats—thirty-two in all. David Thomas,

in his "Journal of a Western Tour," gives the number of vessels on the upper lakes in 1818 as fifty, with a gross tonnage of one thousand eight hundred and sixty-seven. Only two vessels were of more than one hundred tons, and many of them less than twenty. The opening of the Erie Canal in 1826 gave a great impetus to lake navigation, and commerce of all kinds became still more active. In Ball's pamphlet, published in 1825, he says: "The shipping which belongs to this port amounts to upward of one thousand and fifty tons, among which are one steamboat, one hermaphrodite brig, eight schooners, one sloop, and four transportation boats, which average twenty-five tons each. There are upward of sixty sail of good, substantial, and safe vessels owned upon the lake, forty two of which entered this port last season, and there were two hundred and eighty-six arrivals and an equal number of clearances."

The pioneer lake steamer was the *Walk-in-the-Water*, and was built in 1818 by Adam and Noah Brown of New York, opposite the head of Squaw Island. She was a financial success from the start, but was wrecked off the lighthouse November 21, 1821. Her successor was the *Superior*, launched April 13, 1822. Comparing those tiny wooden steamers with the magnificent and speedy three-thousand-ton steel vessels of to-day will illustrate the progress of ship-building on the lakes, and forms a striking object lesson. Up to 1860 the average capacity of sailing vessels was about eighteen thousand bushels of grain. When the large propellers were turned into barges at this period, the tonnage of all kinds of new vessels built was more than doubled, and the small schooner which replaced the sloop was in turn replaced by vessels of four times its capacity.

The receipts of grain, including flour, as taken from official statistics for the past fifty-six years, is a grand total of 2,769,469,804 bushels, beginning in 1836 with 1,239,359 bushels and increasing year by year until in 1891 the receipts reached the amount of 164,459,720 bushels.

So also have the receipts and shipments of lumber, coal, and live-stock grown larger and larger. In 1873 there were received 195,495,560 feet of lumber, which has gradually increased until in 1891 the receipts amount to 262,729,000 feet. The coal ship-

ments from Buffalo have risen from 570,440 tons in 1873 to 2,365,895 in 1891. The receipts of live-stock, including cattle, sheep, and hogs, was 520,693 head for 1857, and 9,163,720 head for 1891.

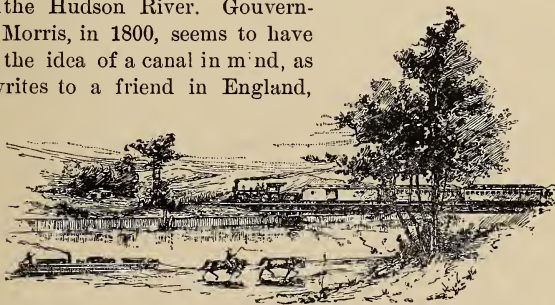
Buffalo's wealth has also kept an onward move in the meantime, as the appraisement for 1857 shows \$35,511,950, and that for 1891 the enormous sum of \$186,957,350.

BUFFALO'S POPULATION.

1810.....	1,000.
1820.....	2,100.
1830.....	8,000.
1840.....	19,070.
1850.....	42,000.
1860.....	80,000.
1870.....	120,000.
1880.....	152,000.
1890.....	253,000.

THE ERIE CANAL.

Several persons have laid claim to the honor of being the first to call attention to the value of a waterway between Lake Erie and the Hudson River. Gouverneur Morris, in 1800, seems to have had the idea of a canal in mind, as he writes to a friend in England,



suggesting the practicability of enabling ships to sail from London into Lake Erie. Jesse Hawley, in 1807, advocated the digging of a canal from Buffalo to Utica, over very near the same

route as at present. In 1808 the New York Legislature passed a resolution, offered by Mr. Joshua Forman, of Onondaga County, providing for the survey "of the most eligible and direct route of a canal, to open a communication between the tide-waters of the Hudson River and Lake Erie." This was the first legislative action, of which there is any trace, that had reference to a canal from the Hudson to Lake Erie. Six hundred dollars was appropriated for the survey, and in the summer of 1810 the commissioners made their first report. To Governor DeWitt Clinton, that illustrious and far-sighted statesman, belongs the honor of being entitled the father of the Erie Canal. He it was who brought in a bill relating to its construction, in 1810, and immediately began the advocacy of those political doctrines which were afterward known as the "canal policy." The War of 1812 put an effective stop to any active work, but on the restoration of peace the subject was renewed. In April, 1817, the Act for the construction of the Erie Canal was passed, and in November, 1825, the completion of the work was celebrated with great *éclat* in every town and village along the route. The festivities began at Buffalo with the firing of a grand salute, which was continued from place to place by guns stationed at suitable points along the whole distance. The cannon used were those with which Commodore Perry won his famous victory on Lake Erie, and, out of compliment to Lafayette, the chief gunner was one of Bonaparte's old *moustaches grisés*. The departure of the first boat from Buffalo, on the morning of October 26, 1825, was witnessed by an immense concourse of people from the town and surrounding country. At nine o'clock a procession was formed in front of the Court House, in which the various trade societies took part, the whole preceded by the Buffalo Band and Captain Rathbun's company of riflemen. At the head of the canal, where the procession ended, the boat *Seneca Chief*, elegantly fitted out, was in waiting. Here the Governor and Lieutenant-Governor of the State, the New York delegation, and the various committees from different villages, including that of Buffalo, were received on board. Addresses were made, and, everything being in readiness, a signal announced that the flotilla was under way. There were four boats in all. The *Seneca Chief* was in the van, drawn

by four gray horses, beautifully caparisoned, and was followed by the *Superior*, *Commodore Perry*, and the *Buffalo*. The signal was continued along from place to place, by previous arrangement, and in eighty minutes came an answer from Sandy Hook by the same system. As the flotilla reached Lockport, the distinguished party found eight companies of militia drawn up in line, and a boat, the *Young Lion of the West*, guarding the mouth of the aqueduct which crosses the Genesee River, "to protect the entrance." The *Seneca Chief* was hailed by the *Young Lion*.

After a short colloquy between the officers of the *Seneca Chief* and the *Young Lion*, the latter gave way, and the "brethren from the West" were accorded permission to enter the basin. At Albany the canal flotilla was met by a small fleet, which accompanied it to New York, where a grand naval pageant took place in the harbor. Amid scenes of wild enthusiasm, the celebration was consummated by Governor Clinton on board the schooner *Washington*, around which were clustered the vessels in the naval pageant. His Excellency proceeded to perform the ceremony of commingling the waters of the lakes with those of the ocean by pouring a keg of the water of Lake Erie into the Atlantic, after which he delivered the following address:

"This solemnity at this place, on the first arrival of vessels from Lake Erie, is intended to indicate and commemorate the navigable communication which has been accomplished between our Mediterranean Seas and the Atlantic Ocean, in about eight years, to the extent of more than four hundred and twenty-five miles, by the wisdom, public spirit, and energy of the people of the State of New York; and may the God of the Heavens and the Earth smile most propitiously on this work, and render it subservient to the best interests of the human race."

The capacity of the canal boats at this period was quite small, averaging about ninety tons. They were of two kinds, the regular packets and the "live boats." Companies owned the horses, and the owners of boats in most cases paid the companies for towing them from station to station, where teams were changed. The "packet" proper carried no freight, and was generally drawn by three horses, which, when towing the boat, were inva-

riably on a trot, except when approaching or leaving a lock. The "line" boats had accommodations for both freight and passengers. Flour was the principal article carried, the capacity of each boat being about one hundred and fifty barrels. The passenger fare was four cents a mile, which included provender and berth. The time consumed in making the journey between New York and Buffalo was six days, and the fare eighteen dollars. In 1853, the canal was enlarged and the sinuous parts straightened, so that the average capacity of boats was increased from one thousand bushels to four thousand. The canal is now believed to have an average depth of seven feet, while the average capacity of boats is about eight thousand bushels of wheat. Passenger travel on the canal of course stopped with the advent of the railroads, which also have made combined and unceasing warfare on the freight carriage of the canal. Everyone conversant with the subject acknowledges that the canal has been the prime and important factor in bringing about the commercial supremacy of the Empire State, as the increase in the population of New York City from the 166,000 of 1825 to the 1,850,000 of 1892 amply testifies. In the same period Buffalo increased in population from 5,141 to over 300,000—the State from 1,600,000 to 6,000,000, while the large and beautiful towns of Rochester, Syracuse, Utica, and Albany, with many smaller towns, may almost be said to have been brought into being by the canal. The State ownership and management of the canal have kept the rates at such a point as to afford a steady and reliable patronage to the boat owners, poor men generally, whose boat and team are usually their only fortune. The canals of the State of New York, during the season of 1887, moved 5,553,805 tons of freight—3,968,767 tons, mostly of lumber and grain, to the seaboard from lake ports, and 1,585,038 tons, mostly of salt, sugar, iron, and other merchandise, from the seaboard to the lakes. The total value of the property thus transported in that year is officially estimated at \$159,245,977. This does not equal the canal business of some other years, but it is three times as great as the canal business of fifty years ago, though there were then no railroads, and the canal was the only channel of trade between East and West.

BUFFALO'S RAILWAY FACILITIES.

As a railway center Buffalo ranks with the foremost cities of the country. The fifteen railways that have a beginning or ending in the city represent a mileage of upward of seventeen thousand miles, and within the city limits alone there are over six hundred and thirty-eight miles of road—more than in any other city of the world. The money investment in railroads within Buffalo's corporate bounds amounts to \$67,000,000. The total earnings of the lines entering the city in 1887 were \$128,061,746. They were built at a cost of \$1,209,752,311.

The first railroads projected to run from Buffalo were the Buffalo & Erie, whose road was to run from Buffa'o through the counties of Erie and Chautauqua to the State line of Pennsyl-



vania, and the Buffalo & Aurora Railroad Company, to run from Buffalo to the village of Aurora, now known as East Aurora. These roads were chartered by the Legislature on the same day, April 14, 1832; but the schemes were never realized, the panic of 1837 aiding their exequies. The Buffalo & Black Rock Railroad was the first railway to be put in working order out of Buffalo. This was in 1834. The road was only three miles in length, but it was little more than a street railway, the cars being drawn by horses. The Buffalo & Niagara Falls Railroad was put into operation in 1836, and was the first road to

be operated by steam-power running out of Buffalo. The panic of 1837 stopped all active railway extension for the time being, and it was not until 1843 that the next road, the Buffalo & Attica, was opened for traffic. Then followed, after a long interval, the Buffalo & State Line (1852), the Buffalo & Rochester, the same year in which the first continuous line to New York was opened. By consolidation and otherwise, the great trunk lines were formed, such as the Vanderbilt lines, the Grand Trunk, the Erie, and the Delaware, Lackawanna & Hudson. It is predicted that when the West and Northwest shall have become as thickly populated as Western New York, Buffalo will be a city of 1,000,000 inhabitants, a figure which its growth in the last decade would seem to justify. It is the terminus of the great trunk lines of road, both East and West, as well as being the terminus of the great roads that reach the vast lumber, coal, and oil fields of Pennsylvania. It is the outlet of over one thousand miles of road reaching the most valuable and productive coal, oil, and lumber supplies in the world. It is the common center between the East and the West of all freight by water, and of much that is transported by rail. Here all the products of coal, oil, and iron from rail to boat, and vice versa, are transferred, which gives employment, at good wages, to a small army of laborers.

BUFFALO'S PLEASURE GROUNDS.

With the love of ease and recreation, so characteristic of New Yorkers—who from Dutch phlegm and British stolidity have evolved into a nature akin to French *chic* and gaiety—the citizens of Buffalo love a *dolce far niente* existence in their hours of idleness. Many are the delightful resorts contiguous to Buffalo, where the tired merchant and clerk, worn out by a long season of business cares and anxieties, may commune with nature in her visible forms, or dally with social pleasures in the numerous hotels at the summer resorts. Among the most popular with Buffalo's upper ten-dom, are Chautauqua, Jamestown, and Lakewood, all within convenient distance to the city, but sufficiently apart to escape the heat and flurry of urban life. Conesus and Silver Lake furnish endless delight to those who prefer life

al fresco, while the Muskoka Navigation Company runs steamers daily through all the navigable rivers to points of interest. The trip "Up the Lakes" is one of those treats that every Buffalonian, young or old, rich or poor, eagerly looks forward to in the summer months. The palatial steamers forming the fleet running between Buffalo and Duluth are famed far and wide, and do not need extended description.

A mention of Buffalo's recreation spots without Grand Island would be like a circus without the clown. This beautiful resort is in the Niagara River, a short distance from Buffalo, and its shores are lined with the summer villas of Buffalo's most substantial citizens. The island is six miles wide and twelve miles long, reaching to within one mile of Niagara Falls, and, with the improvements, present and contemplated, promises to become a veritable Paradise in a very few years. Excursion steamers run daily from the city during the season. For the great army of stay-at-homes, Buffalo has many attractions in summer. The Front Germania Park and the Parade, so popular with East-side folk, the Park, the miles of driveways through well-kept grounds, all contrive to drive dull care away.

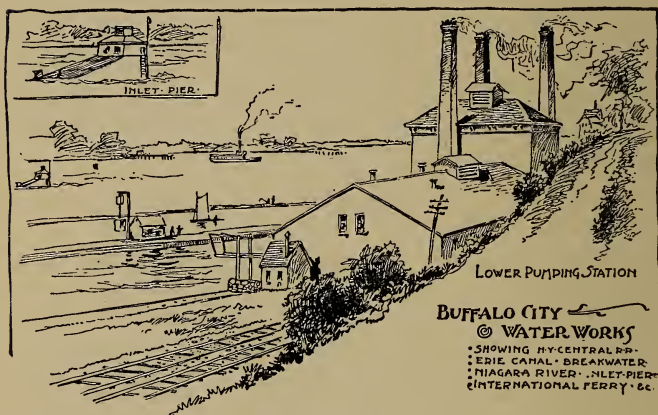
BUFFALO'S FUTURE.

One of the keenest observers of the growth of the West, Frank Wilkerson, wrote recently concerning the prospects of Buffalo, as follows: "During the real-estate excitement which raged in the West, and which still continues in a less virulent form, and in the scramble to secure land near the sites of supposed great cities of the future, the advantages offered by towns nearer home have been almost wholly overlooked by Eastern investors. After mature deliberation, which was preceded by a careful inspection of the Western grain fields, of the iron mines of the Lake Superior region and those of the Rocky Mountains, of the natural channels of commerce, and of a hundred towns that dot the plains and narrow mountain valleys, I believe Buffalo, at the foot of Lake Erie, is to-day the most promising town in America in which to invest money or to engage in trade.

"All the cities of the lower lakes, excepting Chicago, lan-

guished for years. Their streets were literally grass-grown, and their remunerative commerce dwindled to utter insignificance. The truth was that there was not sufficient business to support all the towns. Buffalo, Erie, Cleveland, and Toledo were almost ready for the undertaker. Men impoverished themselves by long-continued payment of taxes on real estate lying in these cities, despairing of there ever being a development of the Northwest, and particularly from the development of the region lying around and west of Lake Superior. This region has proved to be the most productive of freight of all the lake regions, and the commerce of Lake Superior is still in its infancy.

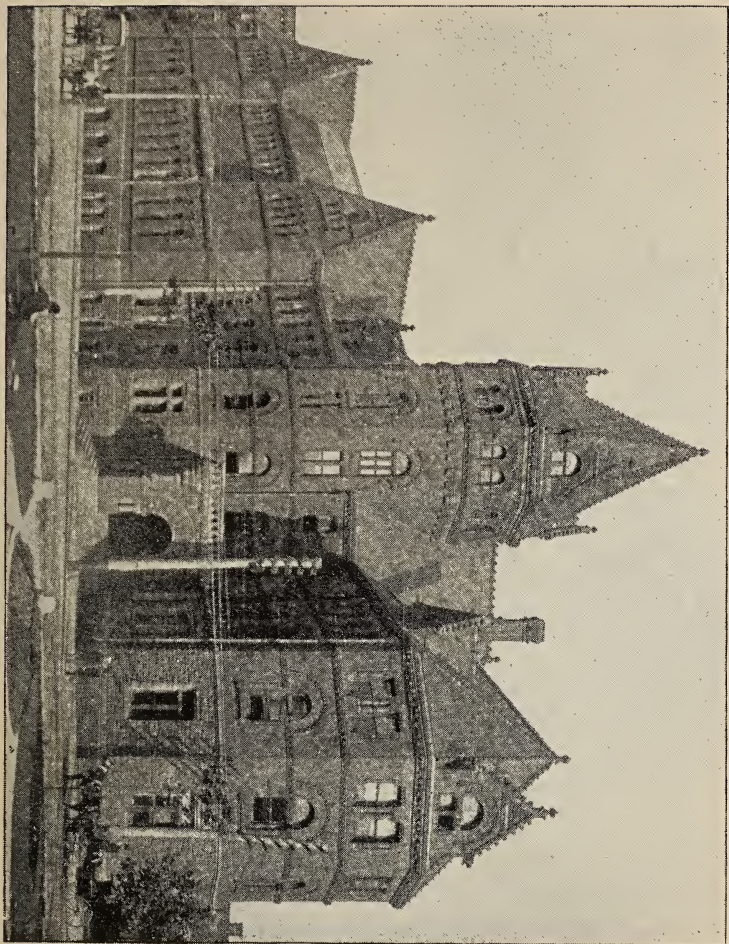
"As I have written, the life of the lake commerce lies in the up-cargoes of coal. The city that controls the supply of that



article will control the commerce of the lakes. Buffalo has almost a monopoly of handling the up-cargoes of coal, because the grain that is shipped by vessels from Duluth and Chicago, to escape from the clutches of monopolistic railroad corporations, has got to be discharged at Buffalo, to secure cheap transportation via the Erie Canal to New York. All the great coal-carrying transportation corporations have branches that terminate at Buffalo, and these corporations have spent millions of dollars to dig

canals, and coal-chutes, and wharves on which to store freight. The managers of these corporations realize that Buffalo is the point at which the lake commerce terminates or begins. Wheat flows into this town from almost every wheat-producing field in America. It is the only city on the continent, except New York, where the wheat from all the different fields meet. Buffalo millers can obtain any desired mixture of wheat, and they can produce every brand of flour that is produced in the United States, excepting on the Pacific Coast. It will inevitably become the greatest milling city on earth, and it should be in the near future, and would be, if its men were as young as those of Kansas City or Duluth, a great manufacturing and ship-building point.

“Every furrow turned on Dakota’s plains; almost every blow struck with keen-edged axes in the forests that stand on the rugged Lake Superior region; the ceaseless hammering of compressed air drills in the Lake Vermillion iron mines; the work of thousands of Pennsylvania coal mines; in short, almost every blow struck in primary productive industries in the region tributary to the lakes adds prosperity to Buffalo—but, alas, the leading men of Buffalo have gray hair. The vigor, snap, and bold enterprise characteristic of youth have departed from them. It requires young men to build a city and to engage in risky enterprises. And these young men will go to Buffalo, and the names now famous in the history of that town will be unmentioned in the near future.



Buffalo Library.

ROCHESTER.

This important city is situated on the Genesee River seven miles south of its entrance into Lake Ontario, with which it is in direct communication. It is located midway between those two greatest of natural attractions—Niagara Falls and the Thousand Islands. It is one of the leading manufacturing centers of the country and has a population of over 150,000. Founded in 1802 by Col. Nathaniel Rochester, a representative pioneer of the Genesee country, it received its charter as a city in 1834. Since then, with such marvelous rapidity has it increased in importance and population that to day Rochester is the fourth city in point of population in the Empire State of New York, the fourth city in the United States in regard to the manufacture of boots and shoes, the third in respect of clothing manufacture, and the leading city in the entire Republic for the seed and nursery trades. The splendid water-power furnished by the Genesee River, together with unexcelled transportation facilities and the fertility of the surrounding country, has contributed very largely to its phenomenal growth. The city covers an area of about seventeen square miles, with 10,947 acres within its corporate limits, and is laid out chiefly in squares, with streets from 60 to 100 feet wide, shaded by beautiful trees. Its public parks comprise 475 acres, its streets are 240 miles in aggregate length, sixty miles of this being covered with electric street cars. It abounds in handsome and tasteful residences, which are, for the most part, surrounded by carefully tended lawns and gardens; its magnificent fire-proof office buildings and warehouses are a credit to the city and equaled by few, even in the metropolis. There are over 33,000 houses within the corporate limits.

In the center of the city are the upper Falls of the Genesee, a perpendicular cataract of ninety-six feet, over which Sam Patch

made his last and fatal leap, two other falls, of eighty-four and twenty-five feet respectively, are a mile and a half below, the river running through a deep gorge in its limestone banks from 100 to 220 feet high.

Among the prominent public institutions of the city are the State Industrial School, two large hospitals, Institution for Deaf Mutes, and charitable organizations of every description. In the matter of schools Rochester is exceptionally well supplied, possessing thirty-five public and sixteen parochial schools, while the University of Rochester and its seminaries of learning have attained a national reputation. There are upward of 100 churches and places of worship. The principal business thoroughfare, Main Street, is in the center of the city, and crosses the river over a handsome iron bridge.

The manufactures of Rochester are extensive and varied. In earlier years, flour was the chief product, giving it the title of the "Flour City," and although now dwarfed by other industries, it is still of great importance, there being no less than eighteen mills in the city. The nursery trade of Rochester is not surpassed by that of any other place in the world, the suburbs are highly cultivated, having 4,000 acres of fruit trees, and nurseries of 250 to 500 acres. Other important industries are cotton and paper mills, breweries, oil refineries, boot and shoe, clothing, furniture, perfumery, and tobacco manufactories. More clothing is manufactured in Rochester than in any other city in the United States. Sixteen railroads diverge from Rochester. Her bank clearings average over \$100,000,000 annually. There are 2,600 manufacturing establishments, in which 40,000 operatives find employment, the capital invested in this and in the wholesale trade being over \$35,000,000. The value of its manufactured products is over \$200,000,000 annually.

A prominent feature of the city, attracting thousands of visitors daily, is the great Powers Art Gallery. It is the private property of Mr. D. W. Powers, and occupies the greater part of the two upper floors of the Powers Building.

A plenitude of resources is afforded the tourist at this delightful city.

ONTARIO BEACH,

one of the most popular summer resorts of Western New York, is less than ten miles distant (a twenty-minute railroad trip). Here has been erected a model summer hotel (the Hotel Ontario), and neither time nor expense has been spared in adding to the number and variety of its attractions. Good fishing and hunting are plentiful, and bathing, boating, and driving, interspersed with the social attractions which the hotel affords, can not fail to make the traveler's stay an agreeable one.

The direct route from Rochester to Niagara Falls lies through a charming section of country. About seventeen miles west of Rochester is the village of Brockport. After leaving Brockport the train passes the enterprising towns of Albion and Medina, and reaches

LOCKPORT,

a prosperous city of 20,000 inhabitants. Here the railroad crosses the Erie Canal by a bridge 500 feet long and sixty feet in height. The canal falls sixty feet in a short distance, and has five combined double locks. Its surplus water is distributed through a hydraulic canal, three-fourths of a mile long, to the various manufactories of the city. This immense water-power is the chief source of the city's prosperity, affording it unexcelled facilities for manufactories of every kind. The railroad company has recently completed a handsome new passenger station at this place. About eleven miles beyond Lockport is the hamlet of Sanborn, and then

SUSPENSION BRIDGE

is reached. This village is a port of entry on the Niagara River, nearly opposite the lower rapids, two miles below the cataract. Here the river is crossed by a suspension bridge more than eight hundred feet long, and two hundred and fifty feet above the water. The railway bridge is eighteen feet above the bridge used for carriages and foot passengers. Some three hundred feet above the old Suspension Bridge, and in full view of the Falls, is located the immense "Cantilever" which was completed in 1883.

TORONTO.

The "Queen City," as the Canadians term her, is situated on a beautiful circular bay on the northwest shore of Lake Ontario, between the Don and Humber rivers. The site of the city is low, but rises gently from the water's edge. The streets are regular and, in general, well paved, crossing each other at right angles. King, Yonge, and Queen streets are the leading thoroughfares, and contain the principal retail shops. The greater part of the wholesale trade is centered in Front and Wellington streets. Yonge Street extends back to Lake Simcoe. Many of the houses and business structures are built of light-colored brick, of a soft, pleasing tint. The growth of Toronto has been more rapid than that of any other Canadian city. It was founded in 1794—on the site of the old French fort called Fort Toronto, or Rouillée—by Gov. Simcoe, who gave it the name of York; changed, when it was incorporated as a city, in 1834, to Toronto—meaning, in the Indian tongue, "the place of meeting." In 1813 it was twice captured by the Americans, who destroyed the fortifications and burned the public buildings. In 1817 the population was only 1,200; in 1852 it was 30,763; in 1861, 44,821; and in 1891 it was 181,220. The commerce of the city is very extensive. Its manufactories include iron and other foundries, flour mills, distilleries, breweries, paper-hangings, furniture, agricultural machinery, pianos and organs, etc.

The finest buildings in the city, and among the finest of the kind in America, are those of the University of Toronto, standing in a large park, and approached by College Avenue, which is one-half mile long, and lined with double rows of noble trees. The buildings form three sides of a large quadrangle. They are of gray rubble-stone, trimmed with Ohio and Caen stone, and are admirable specimens of pure Norman architecture. The Uni-

versity library numbers 29,000 volumes, and there is a fine Museum of Natural History. With it are affiliated University College, McMaster Hall (Baptist), St. Michael's (Catholic), Victoria (Methodist), Wycliffe (Episcopal), and Knox College (Presbyterian). In front of the University is the Meteorological Observatory, the School of Practical Science, and the Queen's Park, comprising about fifty acres, skillfully laid out and pleasantly shaded. In the park is a monument to the memory of the Canadians who fell in repelling the Fenian invasion of 1866, and here stand the Parliament buildings; the Postoffice, a handsome stone building in the Italian style, stands at the head of Toronto Street, and near it is the Free Public Library. The City Hall, in Front Street, near the lake shore, is an unpretentious structure in the Italian style. Near by is the St. Lawrence Market. The Custom House is a large and imposing cut-stone building, extending from Front Street to the Esplanade; and the Court House is in Church Street. Osgood Hall, in Queen Street, is an imposing building of the Grecian-Ionic order, containing the Provincial law courts and an excellent law library of 30,000 volumes. The St. Lawrence Hall, in King Street, is a stately stone structure in the Italian style, surmounted by a dome, and containing a public hall, news room, etc. The Masonic Hall is in Toronto Street, and the Sons of England Hall in Queen Street. The Young Men's Christian Association has a fine edifice in Yonge Street, with the largest hall in the city. The Grand Opera House seats about 2,300, and the Pavilion, in the Horticultural Gardens, 3,000.

The Church of St. James (Episcopal), corner of King and Church streets, is a spacious edifice, in the Gothic style of the thirteenth century, with a lofty tower and spire (306 feet high), a clearstory, chancel, and elaborate open roof of the perpendicular style. It is 200x115 feet and is surrounded by shady grounds. The Cathedral of St. Michael (Roman Catholic), in Church Street, near Queen, is a lofty and spacious edifice, in the decorated Gothic style, with stained-glass windows and a spire 250 feet high. The Wesleyan Methodist Church, on McGill Square, is the finest church of the denomination in Canada. It has a massive tower, surmounted by graceful pinnacles, and a

rich and tasteful interior. Trinity and St. George's (both Episcopal) are neat examples of the perpendicular Gothic style. The Jarvis Street Baptist Church is in the decorated Gothic style, and one of the finest edifices in the Dominion. St. Andrew's (Presbyterian) is a massive stone structure in the Norman style.

The Normal School, the Model School, and the Educational Museum are plain buildings in the Italian style, grouped so as to produce a picturesque effect, standing amid park-like grounds in Church Street. The museum contains a complete supply of educational apparatus and some valuable paintings.

Trinity University, in Queen Street West, is a picturesque building 250 feet long, surrounded by extensive grounds. Upper Canada College is a plain red brick building in King Street, near John, immediately opposite the official residence of the Lieutenant-governor of the Province. The Provincial Lunatic Asylum is a large building, with 200 acres of grounds, west of the city. Immediately west are situated the Central Prison, the Mercer Reformatory for Women, the Orphans' Home, and the Home for Incurables. East of the city (Don Street, near Sumach) is the fine structure of the General Hospital. The Crystal Palace, in which are held annual exhibitions, is an extensive building near the Lunatic Asylum. The Loretto Abbey, in Wellington Place, is the principal nunnery in the city. The Public Library, in Church Street, contains very large and pleasant reading-rooms, and well-selected reference and circulating libraries, numbering 55,000 volumes.

Branch libraries are also situated in different parts of the city.

The journey from Niagara Falls to Toronto may be made either by rail around the head of Lake Ontario, or by rail to the river bank below the Rapids and thence by steamer across Lake Ontario from the mouth of Niagara River. The latter, which is called the water route, may be made from the Falls to Niagara-on-the-Lake by rail, or the electric line of the Niagara Falls Park & River Railway, from the Falls to Queenston (see page 44), on the Canadian side, or along the American shore by rail or electric line, "The Great Gorge Route" (see page 125), to the wharf at

LEWISTON,

where one makes connection by steamer across the lake four times each day.

The railroad runs through The Gorge itself, along a ledge which has been carved out of the face of the cliff. Above towers the beetling front of rock, and far below thunders the tremendous torrent. In the gorge of Niagara the water does not flow or rush or dart, but it bounds and bursts as if belched forth from some hidden volcano. Presently the mad flood is caught and enchained for a time in the sullen vortex of the Whirlpool. Of this unmythical maelstrom one catches a thrilling glimpse from the car window. Then the gorge narrows again, and plunging through short tunnels, swerving dizzily on its airy shelf, round jutting peaks, the road threads the windings of the abyss, gradually descending till it comes out upon the lower level at Lewiston. Here is the navigation, and at the dock, to the side of which the railway has now been extended, the tourist steps on board the steamers. The river rests here in a great slow-reeling eddy. In this eddy the steamer turns, and is grateful for the service of the revolving current.

Opposite Lewiston rise

QUEENSTON HEIGHTS,

the most famous battle-field of the War of 1812. Here, for an autumn day three centuries ago, raged a bitter struggle between the American and Canadian forces, resulting at length in victory for the Canadians, who paid too dear for their triumph, however, with the death of their heroic leader, Gen. Sir Isaac Brock. May it prove an augury of perpetual peace and good-will along these frontiers that when, two days after the battle, Gen. Brock was being buried in one of the bastions of Fort George, minute-guns were fired from the American Fort Niagara, across the river, as a tribute of respect to their illustrious adversary.

On the summit of the Heights stands the monument which has been erected in memory of the favorite hero of the Canadians. This is the second monument erected on the spot, the earlier and

smaller one, built by a grant from the Provincial Parliament in 1824, having been blown up in 1840 by a scoundrel named Lett. The new monument was erected by the voluntary contributions of the militia and Indian warriors of Canada. It is a massive stone structure 190 feet in height, nineteen feet higher than Nelson's column in Trafalgar Square. At the top, beneath a colossal statue of Brock, is a gallery reached by 235 steps. Standing on this gallery one sees unroll before him a matchless panorama of battle-field and vineyard, of cataract and quiet stream, of dark wood and steepled villages, and breadths of peach orchard and fortresses no longer hostile; and far across the blue waters of Ontario the smoke of the great city toward which our feet are set.

From Lewiston to

NIAGARA-ON-THE-LAKE

the river flows for seven miles rapidly between high wooded banks, studded with gardens and comfortable homes. If the tourist has started on the Canadian side, the railroad takes him direct to Niagara-on-the-Lake. This route, as it winds down the side of the Niagara escarpment, gives a wide range over the fertile Niagara plains with all their glory of peach gardens and vineyards, and also a distant view of Queenston Heights and Brock's monument. But it must be acknowledged that it is as much less picturesque as it is more convenient than that by crossing to the American side.

Niagara-on-the-Lake, where of old the fortunes of people were wont to be decided by the sword; where Indians, French and British, Americans and Canadians have contended for the supremacy of the lake regions; where the first Parliament of the old Province of Upper Canada was held in ancestral fashion in the shade of a spreading oak, is now but a merry watering-place. The country round about is a garden; there is capital bass fishing to be had, and the facilities for boating and bathing are not to be excelled.

CHAUTAUQUA AND CHAUTAUQUA LAKE.

The tourist traveling westward gets aboard a train at Niagara Falls, which travels along the shore of Niagara River to Buffalo, thence by the shore of Lake Erie, in full view of that inland sea, past Silver Creek—the home of Kitty of Mr. Howells' "Chance Acquaintance"—and Dunkirk, to Brocton in the vineland of Western New York. Here the train turns away from the lake and begins to climb the range of hills which forms the water-shed between the St. Lawrence and the Mississippi. During this ascent of twenty minutes the tourist enjoys enchanting views of vineyard-clad hillsides, broad fields dotted with farm-houses and villages, and the azure plain of Erie's waters with the Canadian shore dimly visible on the horizon. A few minutes' run from the summit brings the train to the very shore of a charming lake, small in comparison with Erie yonder, ten miles away and seven hundred feet below, yet a good twenty miles long, in some places narrowed almost to the width of a small river, but elsewhere spreading into broad bays with good stretches for sailing or steaming. On the shores of this twenty-mile strip of water are various settlements which collectively offer all the pleasures (save the sounding of the sea) which lure people from home.

"A city upon a hill" is Mayville, the pretty village at the head of Chautauqua waters. By the lakeside the Chautauqua House opens hospitable doors. The high promontory, two miles below, on the north shore, is Point Chautauqua, and the imposing structure which crowns it is the Grand Hotel. Across the lake is a grove-covered point, of which more anon. Scattered at intervals along the shores are quiet colonies: Maple-Springs, White-side's, Long Point, Bemus Point, where the lover of solitude may

find a safe retreat. Near the foot of Chautauqua lies Lakewood, a beautiful "society resort," with well-kept lawns, handsome private cottages, and magnificent modern hotels, of which the Kent House and the Sterlingworth Inn are representative types. The character of the place and the tone of the society are quite in harmony with the beauty of the grounds and the good taste of the management. *Vis-à-vis* with Lakewood, a new summer place has sprung up, Greenhurst, with a perfectly appointed hotel, where one may dine *al fresco* in true continental fashion. A half-hour's steaming through the narrows, or outlet, which calls to mind some portions of Florida rivers, brings the tourist to the pier of Jamestown, one of the most flourishing cities of Western New York. So ends the panorama of this Chautauqua Lake. But the power which has made Chautauqua a household word in this and other lands emanates from the summer city three miles from the head of the lake. It is named Chautauqua.

There used to be many odd notions afloat about this summer city. Time was when people fancied it a "camp meeting," or a sort of boarding school for men and women, who were compelled to rise and go to bed by the stroke of a bell, who practiced all the austerities of life, frowned upon pleasure in every form, and gained their only recreation from an endless round of pious exercises and profound lectures. Happily these ideas—the result chiefly of flippant press correspondence and the American fondness for a joke—have given place to a better understanding of what Chautauqua is and aims to be. The name of Chautauqua has become associated with a system of education which has done much to aid the ambitious in self-imposed tasks.

The principle now so generally accepted, that education is the privilege of all, young and old, rich and poor, that mental development is only begun in school and college, and should be continued through all of life, underlies this Chautauqua system. But it is with the summer community life that we have now to do.

Chautauqua — postoffice *Chautauqua*, N. Y., express office *Chautauqua*, N. Y.—is easily accessible from Mayville, Jamestown, and all points on the lake, by swift steamers plying frequently between the various points on both shores. There is also a direct approach by rail from Mayville at the head of the

lake. Chautauqua is four hundred and sixty-six miles from New York City; four hundred and twenty-five miles from Cincinnati, Ohio; five hundred and thirty miles from Chicago, Ill.; two hundred miles from Pittsburgh, Pa.; sixty-five miles from Buffalo, N. Y., and sixteen miles from Jamestown, N. Y.

The Chautauqua inclosure, consisting of one hundred and sixty-five acres of well-wooded, naturally terraced land, at a beautiful point on the northern shore of the lake, contains more than five hundred artistic and attractive cottages, a well-equipped hotel, and many other buildings which are used for exercises, lectures, and recitations. A large model of Palestine, three hundred feet long, and the miniature representation of modern Jerusalem, both recently renovated, are among the peculiar attractions of this academic town.

The streets are well laid out and carefully sprinkled in dry weather, the water supply is pure and abundant, the sanitation excellent, and the climate generally cool and invigorating. At night the grounds are beautifully illuminated by the electric light, and St. Paul's Grove, in the midst of which stands the white "Hall in the Grove," the center of the Chautauqua Literary and Scientific Circle, is lighted by flaring *Athenian watch-fires*. The Congregationalists, Presbyterians, Methodist Episcopalians, and United Presbyterians all have handsome and commodious club-houses, and other denominations have similar buildings in prospect.

Chautauqua gives more than all other cities. The public functions of other places are limited to the care of streets, the supply of water, and the material welfare of the community. But Chautauqua goes a step farther. The tax which is levied upon the citizens is expended in providing lectures, concerts, entertainments, free to all alike. Hither come men and women prominent in all departments of life.

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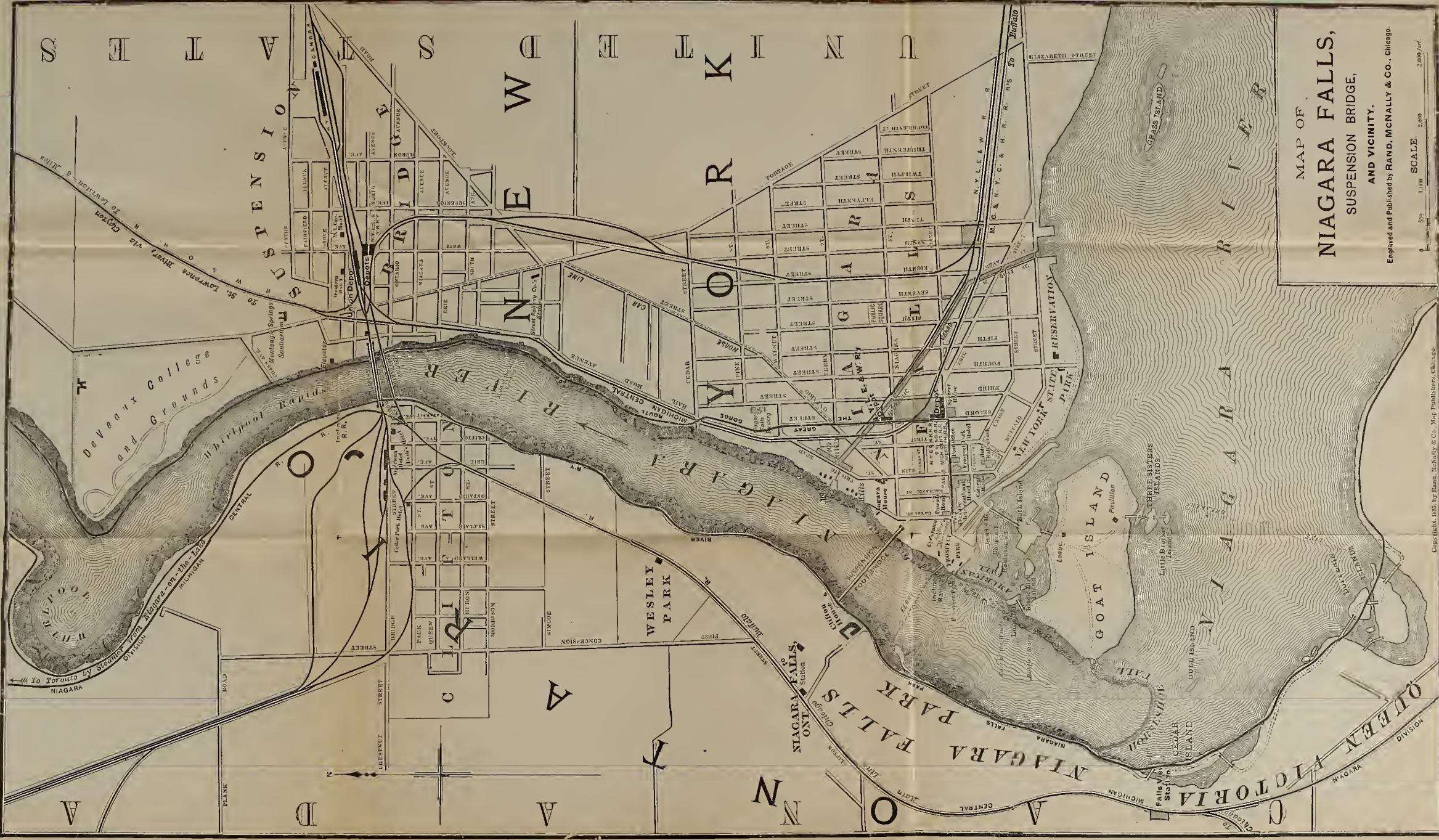
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